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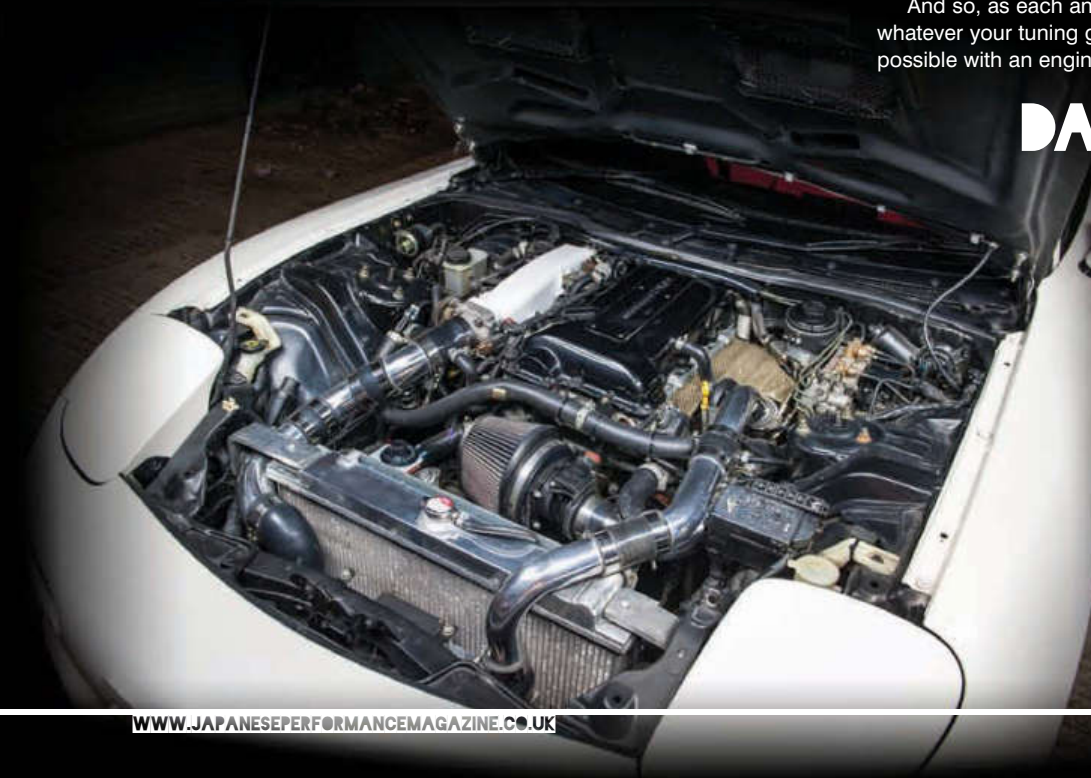
Over the years the Japanese automotive industry has created some of the best and most legendary engines ever to guzzle super unleaded. Such iconic engine codes as RB26, K20, 13B, 4G63 and 2JZ, to name just a few, immediately conjure up images of highly tuned fire-breathing lumps capable of literally tearing the Tarmac from the ground. These, and the many others too numerous to list here, are the engines that have made the cars in which they live household names to anyone with even the slightest hint of petrol in their veins. They are the cars that we all aspire to own, too. Partly because the rest of the package is either extremely capable or just downright gorgeous to look at, but mainly because we all want to be the masters of those glorious hunks of spinning metal that cause so much mayhem and mirth.

But what if you're not lucky enough to own, or can't afford to own, a model packing a slice of engine-based royalty? Well, you could always try tuning what you have, but depending on your base, that can sometimes be little more than a waste of time and money. But there is another alternative...an engine swap. Engine swaps can turn your car from a weedy shopping trolley to a track slaying monster literally overnight. Take Kiel Priestman's EG Civic on page 60, for example. His little EG is now packing a turbocharged B18C engine built by Skunk 2 in the USA that is capable of over 1500bhp and can propel him from a standstill to over 160mph in just nine-seconds! That's insane! But Kiel isn't the only owner in this issue to benefit from a bhp transplant, as BDC drifter Ian 'Bizz' Phillips has also got in on the act by slotting an American LS V8 engine under the 'hood' of his 350Z. Check it out on page 36. Then there's the totally bonkers Impreza from MB Developments on page 68. Matty Baker has swapped the standard 2.0-litre EJ20 lump for a 3.3-litre six-cylinder EG33 with twin turbos. Wound up to its full potential, it'll be pushing out over 1000bhp! And it's still road legal...just.

But engine swaps don't just have to be about getting ludicrous levels of power, they can also give you better fuel economy, enhanced reliability and still have the scope for a truckload of tuning, too, as Steve Grove's SR20-engined Mazda RX-7 on the cover proves. See the results of this stroke of genius on page 18, just try not to get too offended if you're a diehard rotor-head!

And so, as each and every one of these cars shows, whatever your tuning goals or aspirations, everything's possible with an engine swap!

DAN SHERWOOD





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Accord Type-R CH1 1998-2003, Full System without Cat Replacement	£ 681.08	Lancer Evo 4/5/6 Full System without Downpipe	£ 514.59	NISSAN	
Accord Type-R CH1 1998-2003, Full System without Downpipe	£ 643.25	Lancer Evo 4/5/6 Cat Back	£ 454.05	300ZX (Does not fit SWB cars), Cat Back	£ 718.92
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Accord Type-R CH1 1998-2003, Cat back	£ 552.44	Lancer Evo 7/8/9 Full System without Cat Replacement	£ 590.27	Nissan 350Z, Cat Back	£ 749.19
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		Lancer Evo 7/8/9 Cat Back	£ 416.22	Impreza Turbo 2001-2007 Full System with Cat Replacement	£ 718.92
				Impreza Turbo 2001-2007, 1st Cat Back	£ 491.90
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Mutated Impreza packs a 3.3-litre H6 twin-turbo motor and mental aero

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Everything you ever needed to know about oil and lubricating your engine

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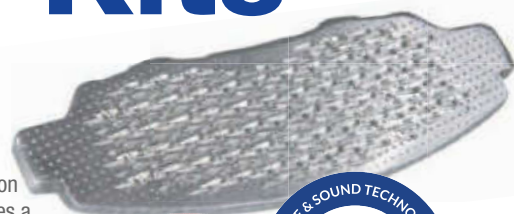
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REGULARS

12 NEWS

Time Attack's champions crowned at final round at Rockingham Speedway, 5 mins with... Turbosmart's Chris Milne, show preview: Gymkhana Grid Final at Santa Pod, crazy bike-engined Honda concept car, success for Rallyday, BDC Champions crowned at Anglesey, return of the Kei car?

81 JAPSTUFF

ASNU 12 injector conversion for Nissan GT-R, Mfactory limited-slip diff for Honda Civic EP3 Type R, Suspension Components adjustable camber and caster mounts, Raceglaze Alcantara cleaner, Poweralign magnetic camber gauge, AirRex air ride for Lexus GS, Goodridge Phantom brake lines for BRZ

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Project EP3 Type R gets a gleaming full body and wheel refresh, including a more aggressive facelift from Milton Keynes based Scuff 'n' Scratch Solutions, Hel Performance's FK2 Type R heads off to Scorpion exhausts for a new stainless steel sting in the tailpipes, Project STi finally gets its sexy new Alcon stoppers and Project Wagon's engine is almost back in one piece!



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2015 TIME ATTACK CHAMPIONS!

PHOTOS BY FLATOUT PHOTOGRAPHY

JAPANESE CARS DOMINATE TIME ATTACK ONCE AGAIN

The final round of this year's championship marked the 10th anniversary of Time Attack in the UK. Back in 2006, an event called GT Battle kicked things off, and ten years on, the cars are going much faster. This last round of the series, held at Northamptonshire's Rockingham Speedway circuit settled the class championships, and drivers of Japanese cars were once again in the thick of the action.

Pro Extreme is the fastest class in Time Attack, and once again it was dominated by Mitsubishi Lancer Evolutions.

Andrew Barbour and Phil Reed were battling it out for the title. Andrew drew first blood in his NR Autosport-supported Evo IX, winning qualifying. However, it was Phil Reed who topped the time sheets in the final, in his Evo VI tuned and supported by AP Tuning and Ross Sport. That was despite rubbing the concrete wall at over 100mph!

Brad Sheehan put in a great performance, too, grabbing second place in the final, with Richard Marshall just behind in third. The result crowned Phil Reed 2015 Pro Extreme

champion. Elsewhere, Russ Paton left it late to win Club Pro in his HQ Garage Evo VI, while there was a huge Impreza versus Evo battle in Club 4WD, with Josef Calleja (Impreza) and Simon Griffiths (Evo III) ending up on equal points heading into the final session of the year! Somehow Simon managed to pull clear of his rival to take both the round win and the Club 4WD championship. Incredible stuff, when you consider that he's done the whole season on just one set of tyres!

In Club FWD, Neil Wrenn

qualified in second place and then won the final, to take the title in his home-brewed turbocharged Honda Civic.

It's also worth noting the performance of Paul Waddington in his K20-powered EK9. Paul was right on the pace of his rivals, despite not having a turbo. In fact, he ended up third in qualifying and fourth in the final. Amazing really, considering the power many of his rivals have under the bonnet.

We featured Umar Masood's FD3S Mazda RX-7 a while back, and he became the Club RWD



PRO EXTREME WINNER

PHIL REED:
AP TUNING/ROSS SPORT
MITSUBISHI LANCER EVO VI



CLUB PRO WINNER

RUSS PATON:
HQ GARAGE MITSUBISHI
LANCER EVO VI



champion, fighting off a Noble M12 GTO3 and Anthony Woo's newly wide-bodied Nissan 200SX in the process. During the day Umar's car caught fire, and Anthony managed to qualify in first place, so it was an eventful day for all.

At the other end of the Time Attack scale is Clubman and Clubman+. The idea of these classes is to invite drivers of lightly-tuned road cars to compete. Mark Flook had already won Clubman+ in his R35 Nissan GT-R, so he had moved up to Club 4WD for a laugh. This left the door open

for Jonny Roose in his Evo VIII to grab the win. While in Clubman, Ollie Novell showed the Toyota Corolla T-Sport can be a very quick car, fighting off the supercharged Mini Cooper S of his nearest rival to win the title. Unfortunately, Jeff Whitbrook just missed out on the Classic & Retro Club title in his Honda turbo powered Daihatsu Charade GTTI, despite qualifying in first place on the day. So while Time Attack continues to evolve, it's clear that Japanese cars are still proving themselves to be the fastest in competition.



CLUB RWD WINNER

**UMAR MASOOD:
FD3S MAZDA RX-7**



CLUB FWD WINNER

**NEIL WRENN:
HONDA CIVIC TURBO**



CLUBMAN+ WINNER

**MARK FLOOK:
NISSAN GT-R**



CLUB 4WD WINNER

**SIMON GRIFFITHS:
MITSUBISHI LANCER
EVO III**



CLUBMAN WINNER

**OLLIE NOVELL:
TOYOTA COROLLA
T-SPORT**

BONKERS HONDA CONCEPT CAR

In all probability this vehicle will never go on sale, but it's such a cool idea that we had to share it with you. Amongst the snooze-mobiles revealed at the recent Frankfurt motor show, where all the manufacturers go to flex their muscles, was this bonkers stripped-down racer concept. The result of an in-house competition to celebrate the success of their RC213V Moto GP bike, this bad boy is predictably powered by the same 212bhp 999cc V4 four-stroke motorcycle engine that revs to 14,000rpm! Coupled to a six-speed DCT gearbox and with hardly any weight to push around, this would be one rapid machine. Build it Honda. Build it now! Go on... you know you want to really!



EVENT PREVIEW

SATURDAY 24TH & SUNDAY 25TH OCTOBER
GYMKHANA GRID FINAL
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Originally scheduled to take place in Athens, the final of the Gymkhana Grid European Gauntlet will now be held at Santa Pod at the end of October. This is great news for fans of high-thrills motorsport, with a host of big names set to burn rubber, skid and slide their way to victory. Ken Block will be there in his famous 'Hoonicorn' Mustang RTR, alongside Rallycross star Liam Doran, plus drifters Shane Lynch and Stephen 'Baggsy' Biagioni. UK driver's Jake Archer and Dmitriy Sribnyj will be there, as will Luke Woodham who is hoping to defend his GRiD championship title.



A ROARING SUCCESS FOR RALLYDAY

More than 10,000 spectators flocked to Castle Combe for the 15th anniversary of Rallyday. The action-packed show features demonstrations from rally cars past and present, with celebrity drivers including this year's special guest, 1981 World Rally Champion Ari Vatanen. The event sponsors included SuperPro suspension parts, as well as Castrol Edge and Cooper Tires.

For us Japanese car enthusiasts, the highlight had to be former British Rally Champion David Higgins taking Colin McRae's iconic 1997 Subaru Impreza WRC car for a spin. Literally. Awesome stuff, and we're sure the big man would have been looking down with a smile on his face.



DATES FOR YOUR DIARY

WHAT, WHERE AND WHEN...

OCTOBER

17TH - TRACKDAY, WOODBRIDGE, WWW.JAVELINTRACKDAYS.CO.UK
 19TH - TRACK DAY, BEDFORD AUTODROME GT, WWW.MSVTRACKDAYS.COM
 19TH - TRACKDAY, DONINGTON PARK NATIONAL, WWW.JAVELINTRACKDAYS.CO.UK
 19TH - TRACKDAY, SNETTERTON 300, WWW.JAVELINTRACKDAYS.CO.UK
 20TH - TRACKDAY, CADWELL PARK, WWW.MSVTRACKDAYS.COM
 20TH - TRACKDAY, OULTON PARK, WWW.MSVTRACKDAYS.COM
 22ND - TRACKDAY, CADWELL PARK, WWW.MSVTRACKDAYS.COM
 24TH - TRACKDAY, BEDFORD AUTODROME GT, WWW.JAVELINTRACKDAYS.CO.UK
 24TH - SATURDAY NIGHT SPECIAL RUN WHAT YA BRUNG, SANTA POD, WWW.RWYB.COM

24TH/25TH - GYMKHANA GRID FINALS, SANTA POD, WWW.GYMKHANAGRID.COM
 24TH/25TH - HALLOWEEN BONFIRE BURN UP, SHAKESPEARE COUNTY RACEWAY, WWW.SHAKESPEARECOUNTYRACEWAY.COM
 25TH - RUN WHAT YA BRUNG, SANTA POD, WWW.RWYB.COM
 25TH - TRACKDAY, BLYTON PARK, WWW.JAVELINTRACKDAYS.CO.UK
 26TH - TRACKDAY, SNETTERTON 300, WWW.MSVTRACKDAYS.COM
 26TH - TRACKDAY, DONINGTON PARK, WWW.OPENTRACK.CO.UK
 28TH - TRACKDAY, BRANDS HATCH GP, WWW.MSVTRACKDAYS.COM
 28TH - TRACKDAY, MALLORY PARK, WWW.JAVELINTRACKDAYS.CO.UK
 30TH - TRACKDAY, CROFT, WWW.JAVELINTRACKDAYS.CO.UK
 31ST - TRACKDAY, CROFT, WWW.JAVELINTRACKDAYS.CO.UK
 31ST - FLAME & THUNDER SHOW,

SANTA POD, WWW.SANTAPOD.CO.UK
 31ST - TRACKDAY, BEDFORD AUTODROME GT, WWW.MSVTRACKDAYS.COM
 31ST - TRACKDAY, MALLORY PARK, WWW.JAVELINTRACKDAYS.CO.UK

NOVEMBER

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 2ND - TRACKDAY, BEDFORD AUTODROME GT, WWW.JAVELINTRACKDAYS.CO.UK
 3RD - TRACKDAY, SNETTERTON 300, WWW.JAVELINTRACKDAYS.CO.UK
 4TH - DRIFT WHAT YA BRUNG, SANTA POD, WWW.DWYB.CO.UK
 6TH - TRACKDAY, CADWELL PARK, WWW.JAVELINTRACKDAYS.CO.UK
 7TH - JAVELIN SPRINTDAYS TROPHY ROUND, CADWELL PARK,

WWW.JAVELINTRACKDAYS.CO.UK
 7TH - FIREWORKS FRENZY, SANTA POD, WWW.SANTAPOD.CO.UK
 8TH - TRACKDAY, MALLORY PARK, WWW.JAVELINTRACKDAYS.CO.UK
 9TH - TRACKDAY, BEDFORD AUTODROME GT, WWW.MSVTRACKDAYS.COM
 9TH - TRACKDAY, SNETTERTON 300, WWW.MSVTRACKDAYS.COM
 9TH - TRACKDAY, CADWELL PARK, WWW.MSVTRACKDAYS.COM
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 9TH - TRACKDAY, BLYTON PARK, WWW.JAVELINTRACKDAYS.CO.UK
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BDC CHAMPIONS CROWNED

Another fantastic British Drift Championship season drew to a close at Anglesey, with all three champions being decided on the day. Incredibly, the Pro class was won by a 16-year-old! Jack Shanahan from Ireland took the title, in a Nissan S14a 200SX powered by a turbocharged BMW M3 engine. Jack is part of Team Driftworks, who won the constructors title. The other members being Richard Grindrod, Chris Smith and Phil Morrison in the DW86, even though he only competed in the first round. While the ProAm class was won by Fraser Stark in a Toyota 2JZ-GTE powered BMW E30 Touring. Fraser grabbed the title by winning the final event of the year. Fans from more than 70 countries around the world tuned in to watch on the live feed, as the eighth year of BDC competition came to a dramatic climax.

PHOTOS BY SMOKIN' IMAGES AND EVERYTHINGDRIFT.COM



RISE IN SMALL-CAPACITY TURBO PETROL CARS?

We wouldn't normally mention German car maker Volkswagen, but just as we went to press they've been caught with their hand in the cookie jar, and the implications could be more petrol turbo cars for everyone. To cut a boring story short, they've found a way to cheat the emissions test for diesel cars over in the United States, to make their cars appear far less harmful to the environment than they really are. If this practice is widespread, and we suspect it is, then diesels will once again be called dirty and the logic follows that we'll see more small-capacity turbocharged petrol engines. Which in the long run is good for the tuning industry, as they'll be ripe for boost increases. A new era of turbo Kei car 'pocket rockets' like the Honda Beat on the way? We hope so!



5 MINUTES WITH... CHRIS MILNE

Q. HI, WHO ARE YOU AND WHAT DO YOU DO?

A. HELLO, MY NAME IS CHRIS MILNE. MY ORIGINAL TRADE WAS IN MECHANICAL ENGINEERING BUT CARS WERE WAY MORE INTERESTING THAN 'HIGH SPEED PACKAGING', SO I TURNED TO RUNNING TUNING SHOPS IN SYDNEY. I MANAGED TO PUT A DEGREE IN MARKETING AND INTERNATIONAL MANAGEMENT IN THE RESUME, AND FOR THREE YEARS NOW I HAVE BEEN THE EXPORT MANAGER FOR TURBOSMART HEAD OFFICE IN AUSTRALIA. I'M ALSO THE GENERAL MANAGER OF TURBOSMART UK, A WHOLLY OWNED SUBSIDIARY OF TURBOSMART IN OZ. I MOVED TO BIRMINGHAM IN JULY LAST YEAR TO OPEN UP OUR FIRST UK AND EUROPEAN OFFICE. I STILL WORK ON THE EXPORT BUSINESS FOR HQ, HOWEVER THE UK KEEPS ME BUSY DAY-TO-DAY!



Q. WHAT PRODUCTS DO TURBOSMART SELL?

A. TURBOSMART MANUFACTURES BOOST CONTROL PRODUCTS. THAT MEANS BOTH MECHANICAL AND ELECTRONIC BOOST CONTROLLERS, DIVERTER AND BLOW-OFF VALVES, WASTEGATE ACTUATORS FOR INTERNALLY-GATED TURBOS AS WELL AS EXTERNAL WASTEGATES. WE ALSO PRODUCE FUEL PRESSURE REGULATORS AND A FULL RANGE OF SILICON HOSES AND HOSE CLAMPS

Q. WHAT WOULD YOU SAY IS YOUR MOST POPULAR PRODUCT?

A. WELL, WE PRODUCE A GREAT LINE OF HEAVY-DUTY, PERFORMANCE-ORIENTED REPLACEMENT DIVERTER VALVES THAT ARE VERY POPULAR. OUR KOMPACT RANGE IS A GREAT UPGRADE FOR FACTORY UNITS, BECAUSE THEY WON'T GET DAMAGED BY BOOST OR HEAT, LIKE MANY OEM ONES CAN

Q. WHAT ARE YOUR NEWEST JAPANESE SPECIFIC PRODUCTS?

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Q. HOW DID TURBOSMART BEGIN?

A. TURBOSMART WAS STARTED BY FOUNDER AND NOW CEO, NIC COOPER. NIC WAS PUSHING THE LIMITS OF ROTARY POWER IN THE MID '90S AND FOUND THE OPTIONS AVAILABLE TO HIM REALLY WEREN'T UP TO THE TASK. A KEEN ENGINEER WITH A PASSION FOR PERFORMANCE, HE HAND-MADE A COUPLE OF PARTS THAT, TO HIS TUNER'S SURPRISE, EASILY MADE THE GRADE. TURBOSMART HAS BEEN INNOVATING THROUGH MOTORSPORT AND PERFORMANCE ROAD CAR TUNING EVER SINCE

Q. WHERE CAN PEOPLE BUY TURBOSMART PRODUCTS?

A. THE EASIEST WAY IS TO CHECK OUT OUR WEBSITE. WE'VE GOT A WORLDWIDE DEALER NETWORK INCLUDING OUR HEAD OFFICE IN AUSTRALIA WHERE EVERYTHING IS MANUFACTURED, AS WELL AS OUR OWN SATELLITE OFFICES IN CALIFORNIA, USA AND NOW BIRMINGHAM IN THE UK. THERE ARE NO HERO PRODUCTS, WE SIMPLY MAKE PRODUCTS THAT SUIT MOTORSPORT AND THEN ADAPT THAT TECHNOLOGY FOR BOTH UNIVERSAL AND VEHICLE SPECIFIC BOLT-ON COMPONENTS

Q. ARE THERE ANY SPECIAL PROJECTS YOU'VE BEEN INVOLVED WITH THIS YEAR?

A. THEY'RE ALL SPECIAL, AREN'T THEY? WE DO HAVE A NUMBER OF COOL PROJECTS ON THE GO AT ANY TIME AND, DUE TO CONFIDENTIALITY, OFTEN CANNOT TALK ABOUT THEM. BUT IN SAYING THAT, YOU CAN SEE OUR PRODUCTS WINNING EVENTS ALL OVER THE WORLD. TEAM TURBOSMART CARS APPEAR ON PODIUMS EVERY OTHER DAY; GOBSTOPPER II - GOODWOOD FESTIVAL OF SPEED WINNER, THE BLACK MAMBA EVO - EUROPEAN TIME ATTACK CHALLENGE WINNER, THE TILTON EVO - WORLD TIME ATTACK WINNER, SCORCH RACING \$15, ETC. THE LIST IS ENDLESS. SEARCH FOR NITTO2 OR RIPS RACING FOR THE WORLD'S FASTEST SKYLINES RUNNING TURBOSMART PRODUCTS, OR EKANOO RACING FOR A COUPLE OF WORLD RECORDS. EVEN MAD MIKE'S RADBUL MX-5 DRIFT CAR FEATURES TURBOSMART BITS DOING WHAT THEY DO BEST

Q. WHAT ARE YOUR PLANS FOR 2016?

A. WE'VE GOT SOME GREAT NEW PRODUCTS COMING FOR 2016, INCLUDING A NEW CATALOGUE, WHICH WE'LL LAUNCH AT SEMA IN NOVEMBER AND THEN AT AUTOSPORT INTERNATIONAL IN JANUARY. WE'VE ALSO JUST MOVED INTO A FANTASTIC NEW FACILITY IN SYDNEY, WHERE WE'VE INVESTED EVEN MORE IN SPACE AND EQUIPMENT TO KEEP UP WITH OUR GLOBAL GROWTH. SO NEXT YEAR THERE WILL BE MORE RESEARCH AND DEVELOPMENT, NEW APPLICATIONS AND GREAT NEW FITMENTS!

Q. DO YOU HAVE A WEBSITE AND SOCIAL MEDIA CHANNELS?

A. YES, YOU CAN KEEP AN EYE ON WHAT WE'RE DOING VIA OUR WEBSITE WWW.TURBOSMARTUK.COM, OR CONNECT WITH US VIA FACEBOOK AT WWW.FACEBOOK.COM/TURBOSMART. THANKS FOR YOUR TIME CHRIS, IT'S APPRECIATED!

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SERIAL THRILLER

FEATURE-QUALITY CARS COME THICK AND FAST OUT OF STEVE GROVE'S GARAGE, BUT IT'S HIS SR20DET-POWERED MAZDA RX-7 FD THAT TAKES THE HEADLINE SLOT IN THIS MONTH'S EDITION OF *JAPANESE PERFORMANCE*...

WORDS: DAN FURR PICS: DAN SHERWOOD







ONE OF THE BEST THE RX-7 FD WAS A BIG HIT IN AMERICA, WHERE IT FOUND ITSELF POSITIONED FAVOURABLY IN MULTIPLE 'TOP TEN BEST CARS' POLLS DURING EVERY YEAR THAT THE MODEL WAS SOLD THERE. ONE PUBLICATION CLAIMED THE FD TO BE 'THE PUREST, MOST EXHILARATING SPORTS CAR IN THE WORLD,' AND PLAYBOY EVEN WENT AS FAR AS TO AWARD THE MIGHTY MAZDA ITS COVETED 'CAR OF THE YEAR' AWARD IN 1993. TODAY, THE FD CONTINUES TO GENERATE EXCITEMENT AMONG EVEN THE MOST SEASONED OF PETROLHEADS, AND AN EVER-INCREASING VARIETY OF TUNING PARTS IS AVAILABLE FOR THOSE THAT WANT TO TWEAK AND TUNE THIS MOST EXCELLENT OF JAPANESE MOTORS

Milton Keynes, August 2015. Tucked away in the workshop that sits next to his Buckinghamshire residence, Steve Grove is working on a modified Mazda in the hope of displaying it at the forthcoming Japanese Auto Extravaganza in Newark. He's owned the bright white RX-7 FD for just a few days, and in spite of a number of unexpected bodywork complaints that have caused him more hassle than he was anticipating, he's determined to spend the limited downtime at his disposal readying the Wankel-powered wonder for the fast-approaching September show.

But wait! That's not a 13B-REW rotary lump! 'This particular Mazda was equipped with an SR20DET powerplant


and gearbox long before I got hold of it,' explains Steve. 'The previous owner bought the car with an empty engine bay. Apparently, a single turbo conversion had gone south, causing a lot of damage in the process. An inline-four was seen as a more reliable source of power, and a donor Nissan 200SX was called upon to deliver the goods,' he says.

Other than its new engine, Steve's RX-7 was in more-or-less standard guise when he spotted it advertised for sale in an online classified while he was sunbathing on holiday in Spain. Now, at this point you might be thinking that you've heard this story before, and you'd be right. Sort of. You see, Steve is no stranger to the pages of *Japanese*

Performance. Indeed, regular readers will remember the 37-year-old's 350bhp RB25DET-propelled Datsun 260Z from its star turn in the February 2015 edition of the magazine. Or perhaps you're more familiar with the Jordan Yellow Nissan Pulsar GTI-R that he breathed a new lease of life into in advance of the Z-car feature? Either way, all of Steve's motors are acquired in exactly the same fashion: he heads off on his annual holiday to Spain, he lies poolside (iPad in hand) and he scans UK car sales websites for interesting Japanese machinery before striking a deal and heading home to collect whatever tin is to become his next four-wheeled project. Oh, and he gives himself just one month to get his new toy turned



'HE HAD JUST ONE MONTH TO COMPLETE THE BUILD BEFORE UNVEILING IT AT JAE'



around in time for its unveiling at JAE. Sorted!

'I was lucky with the RX-7 insofar as the Nissan engine, gearbox, wiring and ECU had been installed to a high standard. The rest of the car was in need of attention though, but the fact that it was able to run under its own steam represented half the battle won!' he smiles. Praise indeed from a man who earns a living evaluating the finer features of Nissans at the manufacturer's Bedfordshire research and development centre. Not that you should assume that he was entirely happy with the state of his new ride's engine bay. 'Everything had been painted satin black. I wanted an OEM+ finish throughout, and I knew that big changes would need to

occur beneath the car's bonnet before I was able to get close to my goal,' he sighs.

Fortunately, Steve's burning desire for a tricked-out Mazda had already resulted in the purchase of a late FD that could be used as a donor vehicle for the new arrival. 'My original RX-7 was collecting dust in the corner of my workshop,' he continues. 'Prior to my name appearing on its logbook, the car had been sat motionless beneath a tree for twelve years. A thick layer of grime and sap covered the outer bodywork, but its interior was immaculate thanks to just thirty thousand miles of use before retirement from the road,' he says.

An SR20DET conversion was already something that the talented Mr Grove was

considering for the dirt-laden RX-7. Obtaining the white car, however, meant that the hard work had already been done, leaving him to crack on with the task of improving his new Mazda's overall performance, not to mention its appearance.

'I replaced the offending engine components with stainless hard pipes, silicone hoses and OEM black tubing lifted out of the donor,' he tells us, adding that he made custom steel brackets to take the place of rubber parts that had been introduced at the time of the engine swap. Radiator, fuse box and air mass meter mounts were fabricated to suit, while a poorly connected differential-to-gearbox torque arm was replaced with a

**FIRST OF ITS KIND
THE FD MIGHT HAVE BEEN THE
THIRD GENERATION OF MAZDA'S
HUGELY POPULAR, REAR-WHEEL
DRIVE, FRONT-ENGINE RX-7
SPORTS CAR, BUT ITS 13B-REW
ENGINE WAS THE FIRST-EVER MASS
PRODUCED SEQUENTIAL TWIN
TURBOCHARGED POWERPLANT
TO BE EXPORTED FROM JAPAN.
PRODUCING NEAR-280BHP BY THE
TIME THAT PRODUCTION ENDED IN
2002, THE COMPLEX SYSTEM
COMPRISED TWO HITACHI TURBOS
- THE FIRST PROVIDED BOOST
UNTIL 4500RPM, THE SECOND
KICKED IN THEREAFTER**

bespoke equivalent.

Things weren't quite as straightforward at the nose end of the car; a Feed Spec 2 lower valance had been attached to the front bumper, but the impact of air pushing against the panel at speed had shown it to be poorly secured, with a four-inch crack highlighting what can only be described as a pronounced bodge job. Unsurprisingly, the bumper was removed, whereupon it was expertly fixed and smoothed inside Steve's increasingly busy workshop.

Brand new rear wheel arch extensions also gave cause for

concern; Steve's initial excitement after taking delivery of his car's wide body panels soon turned to disappointment when it became clear that he would have to extensively modify them to ensure a perfect fit. 'You don't expect to have to make such drastic alterations to new kit, but that's exactly what I had to do,' he frowns. 'I used a heat gun to soften the panels so that I could mould them to the contour of the car's bodywork. At the end of the day, my day job requires an attention to detail that carries over to my own projects. Anything less than

a smooth finish is totally unacceptable,' he adds.

An off-the-shelf rear diffuser was the next item to find itself at the mercy of Steve's beady eye. The carbon-finished part wanted to protrude from the sides of the car, thus clashing with wheel arch extensions determined to wrap themselves around its lower rear backside. Head scratching and quick thinking ensued, and – as you would expect – the parts now sit alongside one another without complaint following some fine fettling and masterful modification (thankfully, a genuine RE Amemiya carbon-

COME AGAIN? IT HAS BECOME FASHIONABLE (OR SHOULD THAT READ 'LAZY'?) FOR MANUFACTURERS TO RELY ON THE SUCCESS OF DISCONTINUED MODELS WHEN ATTEMPTING TO IMPRESS THE WORLD WITH NEW-TO-MARKET MOTORS. SADLY, MANY OF THE NEW BREED FAIL TO LIVE UP TO THE STANDARD SET BY THE OLDER VEHICLES THAT GAVE THEM THEIR NAMES, AND IT IS WITH THAT IN MIND THAT WE WINCED WHEN LEARNING ABOUT MAZDA'S INTENTION TO DUST OFF ITS RX-7 BADGE. NEVERTHELESS, WE'RE LED TO BELIEVE THAT AN IMPRESSIVE 300BHP 16X-POWERED INCARNATION OF THE CAR MIGHT SURFACE AT SOME POINT IN THE NOT-TOO-DISTANT FUTURE. WHATEVER THE OUTCOME, THE FD HAS PROVED ITSELF TO BE A TOUGH ACT TO FOLLOW!

'THE ADVAN WHEELS HAVE BATTLE SCARS FROM A LIFE OF TANDEM DRIFTING IN JAPAN'



fibre bonnet and a matching rear wing offered grief-free installation!).

Surprisingly, it was the colour of this RX-7 that would provide Steve with the biggest headache of the project. 'I was handed a pot of Ford Performance White by the Mazda's previous owner. The Blue Oval shade had been used during the car's not-so-recent respray, but there wasn't enough pigment left in the container to apply to the repaired bumper and new body parts. I had no choice but to visit the guys at my local paint store with a request for more of

the same stuff. Imagine my surprise to return home, only to find that they'd supplied me with a weird-looking yellow mixture!' he groans.

Two more visits to the paint shop followed before Steve realised that Performance White is a name that Ford saw fit to apply to multiple finishes. Doh! Kicking himself, and unable to find a decent match with which to decorate the car, he decided to create his own by introducing a Halfords-sourced rattle can of Mercedes-Benz black to the proceedings; the correct colour was achieved by slowly mixing the various whites with

an occasional spray of ze German tint. Phew!

With the car's exterior finally as good as new, rare Advan RS gold multi-spokes were given the task of filling those TEIN-lowered wheel arches. 'The rims are displaying battle scars as a consequence of some wheel-to-wheel tandem drifting by their original owner in Japan. To be honest, despite my usual high standards when it comes to detailing, I quite like the fact that the Advans look as though they've seen some action,' says their proud owner. The accompanying anodised wheel bolts and nearby calipers do a

fine job of breaking up the white-and-gold look by injecting a splash of radiant red, and Steve has been keen to continue the theme inside the car's interior too.

'I installed a pair of red Bride Low Max racing seats,' he confirms. 'I'm over six foot tall, which is a bit of a problem when you consider the limited cabin space afforded to me by the kind of motors that I tend to buy. That said, in keeping with the approach I adopt when updating the interior of every one of my rides, I removed a huge amount of metal from the Bride seat subframes before



ENGINE

1998cc, 4-cyl, 16v, SR20DET DOHC turbo, Megan Racing engine mounts, painted cam cover, Bailey recirculation valve, K&N induction kit, smoothed and colour-coded inlet manifold, custom 3in stainless steel decat exhaust system with Magnex rear silencer, Koyo aluminium radiator with custom mounting points, custom twin fan housing, adjustable fan temperature controller, Walbro high-flow fuel pump, ECU relocated to glovebox, battery relocated to lower rear seat

PERFORMANCE

276bhp @ 1bar boost, 290lb ft torque

TRANSMISSION

SR20DET five-speed manual gearbox, custom gearbox mount, Exedy uprated organic clutch, factory RX-7 power-assisted steering rack with SR20 pump, bespoke PAS pipework, short shift kit

SUSPENSION

TEIN Monoflex coilover kit, ride height lowered 60mm, SR20 subframe mounts

BRAKES

Factory RX-7 calipers, genuine Mazda discs and pads

WHEELS & TYRES

8.5x17in (front) and 9.5x17in (rear) Advan RS wheels painted gold, Bridgestone RE40 215/40/17 (front) and 245/35/17 (rear) tyres, anodised red wheel nuts

EXTERIOR

Full respray in Ford Performance White, Feed Spec 2 lower valance blended into original front bumper, shortened GRAMS carbon-fibre splitter, RE Amemiya carbon-fibre bonnet, Aero sill extensions, modified Aero 25mm rear wheel arch extensions and lower rear diffuser, RE Amemiya carbon-fibre rear wing, bespoke spoiler mounts

INTERIOR

Modified Bride Low Max front seats and subframes, bespoke rear seat base, MOMO steering wheel, Nissan R33 GTS-T gear gaiter, Richbrook gearknob, relocated gearstick with modified surround, modified instrument cluster, Koyo combination instrument panel, factory gauge deletion, Autometer air/fuel ratio and boost gauge, genuine RX-7 floor mats, Sony Bluetooth-enabled head unit, SPL uprated speakers

THANKS

Thanks to JDMK, Dave for finding the wheels, Presley for his differing opinions on colour, and to Leon Chan and the gang at EP Racing for great customer service



extending their rails so that I can slide back and sit much lower than factory chairs will allow,' he says. He's not joking either – Steve might have gained a lot of bum room, but he sits so low in the car that he might as well be sitting on its psychedelic floor mats!

A Momo steering wheel, a Richbrook gearknob and a relocated quickshift-enabled gearstick with a modified surround also populate the cockpit of this mega Mazda. Its factory dials have been replaced by an aftermarket instrument panel and Autometer gauges, while door cards and various pieces of dash trim

have been provided by Steve's donor RX-7. But for all these bells and whistles, we're excited by the fact that his pokey project car is powered by a Nissan four-pot! 'I'll level with you: my SR20DET-equipped RX-7 performs just as well as a standard fault-free example of a rotary-engined model, and is packing around 276bhp. The main difference between the drive of a stock RX-7 and my own is simply that the Nissan nuts and bolts deliver increased reliability and better fuel economy,' he admits. Yes, but there's also the not-inconsequential matter of the colossal range of tuning parts

that are now available to fit to this Japanese gem! 'I'm glad you've mentioned that. 380bhp is my target performance figure for the car, and I plan to achieve it by deploying a bigger turbocharger, high-flow fuel injectors, a Z33 air flow meter and an A'PEXi Power FC ECU!' he roars. We don't doubt him.

But did the car make it to JAE? You bet it did, and the reception it received from the punters in attendance was every bit as positive as we expected it to be. It's just a shame that we'll have to wait another twelve months until Steve's next Newark-bound creation. Bring it on! **JP**

'380BHP IS MY TARGET POWER FIGURE FOR THE CAR'





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MIMMS TRACKDAY

THE MIMMS HONDA DAY CREW DESCENDED ON ROCKINGHAM SPEEDWAY'S OVAL CIRCUIT ONCE AGAIN FOR THE SECOND ACTION CLUTCH-SPONSORED TRACKDAY MEET

WORDS: DAN SHERWOOD PICS: DAN SHERWOOD & ANDY LIU (TRACK PICS)

The Honda tuning scene is one of the most vibrant sections of the Japanese tuning industry. The diversity of cars that you see at shows, trackdays and race series all over the country proves that beyond a doubt. Where

the likes of Nissan's S-body models seem to dominate the drifting scene, hot Hondas seem to have the rest of the disciplines pretty much sewn up. From drag racing – see Kiel Priestman's record breaking EG Civic on

page 60 – to circuit racing – Mark Burnett's EG is one of Time Attack's fastest runners – to the perfectly polished paintwork on display in various show 'n' shine arenas, you can bet a large proportion of those participating have an H

on the bonnet. Which is exactly why events such as the Action Clutch-sponsored Mimms Honda Day trackday have come to exist.

Organised by Davinder Plaha of Honda parts specialists EHM Parts, this is the second

event of its kind, after the idea of creating a show-and-go event for Honda fans debuted at Rockingham at the start of the year.

Previous to the initial show, held on the 5th April, the Mimms meets had been purely static





affairs held originally at South Mimms services on the M25 (hence the name) and later at purpose-hired venues such as North Weald airfield and Bluewater shopping centre's 'Glow' exhibition halls.

'We had a really good response to the first

trackday meet,' explains Davinder, 'so we soon started planning another event in the same vein.'

And as the saying goes, 'if it ain't broke, don't try to fix it', so the format was much the same as before with the exception of a few teething problems that

were sorted out the second time around, such as the long queues to enter the venue, which were subsequently much reduced.

'This show ran much smoother than the last one,' reveals Davinder, 'however, numbers were

down slightly. We expected that to be the case as, unfortunately, the show fell right in the weekend between Japfest 2 and the popular Honda Euro meet, meaning many of our European regulars didn't manage to make the trip over this time as

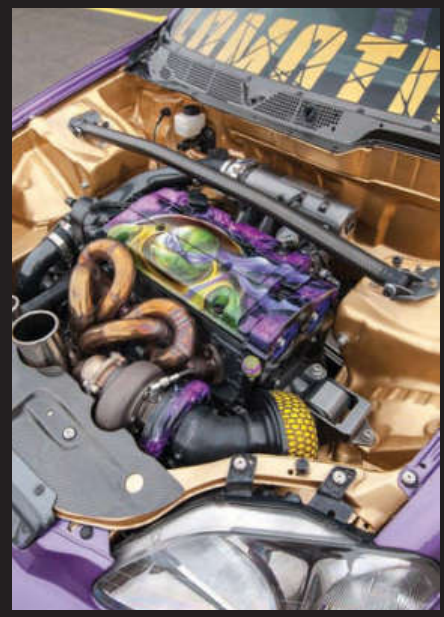
they were still prepping for their local meet the weekend after. The weather forecast didn't help things, either, as it gave heavy rain in the afternoon, which put some people off.'

But even without the numbers of the debut event, the loyal Honda



AWARD WINNING STYLE

THE COVETED CAR OF THE SHOW AWARD WENT TO SHAUN QUINN IN HIS IMMACULATELY PREPARED AND TEENAGE MUTANT NINJA TURTLE INSPIRED EK CIVIC. SHAUN TRAVELLED ALL THE WAY DOWN FROM SCOTLAND TO ATTEND, BUT OBVIOUSLY THE TRIP WAS WELL WORTH IT, AS HE WENT HOME WITH THE SILVERWARE!





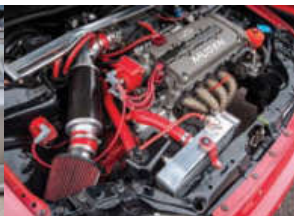
hardcore still put on a good show and, once inside the Rock's inner sanctum, Hondas of all models were strewn around the venue. From the gleamingly clean and ground-scrappingly low entrants in the show 'n' shine arena and the club stands located in

the pit lane, to the stripped and purposefully stanced rides waiting to rip up Rockingham's circuit, it was pure nirvana for VTEC fans. Those waiting with helmet in hand were treated to the Northamptonshire

circuit's challenging in-field layout with prices ranging from a paltry £20 for the first 30 minute session of the day (rising to £30 for 30mins for the subsequent sessions) sto £99 for those wanting to enjoy the track for three hours in

an open pit lane format. However, those that wanted to test their machinery without risking getting gravel rash on their pristine paintwork in the event of a track-based 'off', could prove their motor's worth on the mobile Dyno Dynamics rolling road

supplied and run by IA Motorsport. Other companies in attendance were the likes of Honda specialists 6TWO1, Injection Imports, Torque 1320, HeavySet, EHM Parts and, of course, headline sponsors Action Clutch, all ready





to supply the parts-hungry show-goers with their shiny wares that were glinting in the morning sunshine.

But as the dry and bright morning turned to afternoon, the weathermen were spot on with their predictions

and the heavens did indeed open to drown the show in torrential rain, effectively halting the proceedings on track prematurely and causing many to abandon ship before the show's originally scheduled ending. Even the lure of

some sheltered RC drifting in Rockingham's immaculate pits couldn't keep people entertained for long.

However, no one can control the weather and it was just an unfortunate end to what started out as a cracking trackday

meet, and we're sure Davinder and the rest of the Mimms faithful will be back for more another day. In fact, there is already another event planned; this time it's a return to a static meet at Peterborough Arena on the 29th

October. If you like Hondas there'll be no better place to be. **JP**

**CHECK OUT THE VID
HERE IS A VIDEO OF THE
EVENT FROM EWAN
MARSHALL FROM
DELUXE CLUB
[HTTPS://WWW.YOUTUBE.
COM/WATCH?V=IGFP0W
60TLY](https://www.youtube.com/watch?v=IGFP0W60TLY)**



JAP SPEED

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EXHAUSTS AND MANIFOLDS



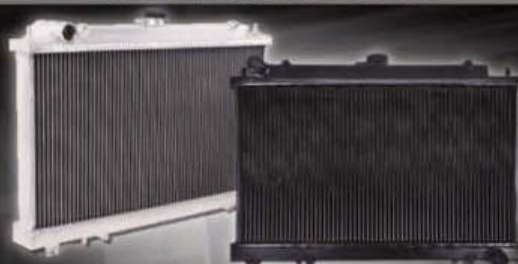
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OLD SCHOOL RULES

JP CHECKS OUT THE COROLLA BROTHERHOOD'S ANNUAL RETRO TOYOTA GATHERING AT SOUL RC IN NORTHAMPTON

WORDS: CHAYDON FORD PICS: DAN SHERWOOD

In retro circles the Toyota following is one of the most vibrant, both here in the UK and further afield, too. Although much of the largest concentrations of cars and enthusiasts are found in Ireland and various pockets of the larger built up areas of North America, the UK still seems to have a love affair with the brand's models of days gone by, even if our miserable winters and salt-gritted

roads do have a habit of sending most retro cars into early retirement at the scrapyards.

And maybe because of this, the UK retro Toyota scene is one of the most close knit groups of owners around. Founded in 2010, The Corolla Brotherhood was originally started as a blog by Toyota fan James Gascoigne, to document and share his love for AE86 Corollas.

The blog gained

momentum with like-minded fans and soon built up its own community of loyal retro Toyota owners, eager to get their fix of classic Jap tin and chat about their respective projects. And as the numbers grew, it was felt that it would be great to put faces to the names that were repeatedly popping up on line, so one of the early contributors to the blog, Chaydon Ford – who had become good

friends with James through the Corolla scene and who also ran a now-defunct Corolla forum called eight-six.co.uk – decided to organise a meet at the Ace Café, which saw the birth of the first Retro Toyota Gathering.

2015 marked the fifth year the event has been going, with the first two years being held at the world famous Ace Café on the North Circular Road in London. For the

third year, largely due to the Corolla's entwined history with the drift scene, the Gathering moved to the Lydden Hill round of the Maxxis British Drift Championship. However, due to the south Kent location being fairly remote for most people, and that many cars weren't running at the time, attendance was low, so it was decided that the fourth event would be moved to a





BENNY REES'S TOYOTA CELICA
PREVIOUSLY A SERIAL HONDA FAN, BOURNEMOUTH-BASED BENNY SWITCHED HIS BRAND ALLEGIANCE WHEN HE IMPORTED HIS RA28 CELICA FROM JAPAN AFTER A TRIP TO THE FAR EAST MOTORING MECCA. THE IMMACULATE CREAM PAINTWORK IS COMPLEMENTED BY A SET OF PERIOD WATANABE WHEELS WITH FAT YOKOHAMA RUBBER. IF HIS PREVIOUS CARS ARE ANYTHING TO GO BY, TWO OF WHICH HAVE BEEN FEATURED IN THIS VERY MAGAZINE, THIS CELICA IS DEFINITELY ONE TO KEEP AN EYE ON!



more central location to allow more retro Toyota owners to join in the fun.

Radio control drifting specialists, Soul RC in Northampton, was selected as the venue and proved extremely popular, partly because of its great location in the centre of the country, but

also as attendees could get to grips with the RC cars which were available to drift around the firm's purpose-built indoor drift track.

Due to the popularity, plenty of parking and great atmosphere, plus the strong turnout achieved at the previous

year's event, 2015's meet was also scheduled to return to Soul RC's headquarters.

On the day of the meet, the sun was shining and the distinct sound of Toyota 4A-GE engines filled the air as Soul RC's car park gradually filled up with a

feast of some of the UK's hottest Hachirokus.

The strong bond between members of the Corolla Brotherhood was again present, with some owners travelling many hours to attend and hang out with like-minded retro Toyota enthusiasts. Many of those in attendance were

long time friends catching up on the latest updates on each others rides, however, even the newbies to the group that had never met any other owners before – their interactions within the club limited to online forums and messages – felt a warm welcome as



ZACK HAFER'S TRUENO
US MILITARY MAN ZACK IS ALSO A HONDA FAN THAT HAS TURNED TO TOYOTA. HE ORIGINALLY BOUGHT THE TRUENO WHILE STATIONED IN TOKYO FIVE-YEARS AGO AND HAS BEEN TUNING AND IMPROVING IT EVER SINCE. THE ORIGINAL ENGINE WAS REPLACED WITH ONE FROM A LEVON BZR ONTO WHICH ZACK GRAFTED SOME INDIVIDUAL THROTTLE BODIES AMONGST OTHER POWER INDUCING TWEAKS. SITTING SQUAT ON A SET OF 14IN WATANABE WHEELS VIA A DROP FROM A SET OF GREDDY COILOVERS IT'S GOT TO BE ONE OF THE CLEANEST TUNED EXAMPLES WE'VE SEEN





ROB MAY'S COROLLA
ROB MAY MADE THE TRIP TO THE RETRO GATHERING WITH HIS UK COROLLA ON THE BACK OF A TRAILER, BUT DON'T GO THINKING THAT THIS IS SOME PAMPERED TRAILER QUEEN SHOW CAR, AS ITS MAIN PURPOSE IN LIFE IS GETTING THRASHED TO DEATH ON THE UK'S RACE CIRCUITS. THE ONLY REASON IT DIDN'T MAKE ITS WAY TO THE MEET UNDER ITS OWN STEAM IS BECAUSE IT CURRENTLY HAS NO ENGINE! THE COMPOMOTIVE CXR WHEELS LOOK GREAT IN DARK BRONZE WITH THEIR BALLOON TYRES, AND INSIDE IS JUST AS PURPOSEFUL BEING STRIPPED OUT AND CAGED, READY FOR THE FIRE-SPITTING NEW 20V ENGINE TO BE DROPPED INTO PLACE. WE LIKE!

the Brotherhood's friendly and inclusive vibe put everyone at ease meaning, they may have arrived as strangers, but they left as part of a close-knit group of friends with a shared passion for classic Japanese metal.

James and Mitto from

Soul RC were the perfect hosts on the day, supplying plenty of charged batteries for the RC drift battles that were going on inside and even organising a tasty barbeque for those in attendance. However, for many, trying to divide their time between the

collection of cars outside and the RC track inside proved a difficult task!

While the AE86's may share a chassis number, each car in attendance was modified uniquely, with some more show oriented and others pure track cars. It really was great to see such

diversity and that people are not afraid to alter these increasingly rare and appreciating classics to their own personal tastes. The RC cars indoors mimicked this originality, with each owner's personality being reflected in the design of their mini race cars.

While ultimately numbers were slightly down on the previous year's affair, those that did make the trip were certainly not disappointed and many have already pledged to return for next year's event. We'll certainly be there... Will you? **JP**



JAMIE CAVE'S COROLLA
IF THERE'S ONE THING THAT'S GUARANTEED TO GET A CAR NOTICED IT'S AN ORIGINAL PAINT COLOUR, AND JAMIE'S COROLLA WEARS A UNIQUE SHADE OF 'BATTER MIX', AS HE CALLS IT - DUE TO ITS UNCANNY RESEMBLANCE TO PANCAKE BATTER - IS DEFINITELY AN EYE CATCHER! IMPORTED FROM JAPAN, JAMIE'S CAR IS COMPLETE WITH A ROLLAGE AND BRIDE BUCKET SEAT ALONG WITH A SET OF POLISHED 14IN WORK EQUIP WHEELS. THE BEST PART IS THAT JAMIE'S BROTHER HAS A MATCHING ONE, TOO! BOTH CARS WERE BUILT BY FRIENDS IN JAPAN AND ARE NOW OWNED BY THE BROTHERS IN THE UK.



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EIGHT BRAWL

SOME MAY DECRY THE INSERTION OF A SLICE OF HEAVYWEIGHT AMERICAN MUSCLE INTO A NIMBLE JAPANESE COUPÉ. BUT YOU CAN'T ARGUE WITH THE KNOCKOUT RESULTS...

WORDS: DAN BEVIS PICS: DAN SHERWOOD



A common idiom in the world of modified cars is 'using a sledgehammer to crack a nut'. We revel in it, this notion of throwing unrelenting brute force at a task in order to get it done with – if we're honest – far more force than could ever be necessary. The task in question here is simply getting from Point A to Point B – generally via an entertaining jaunt through the winding lanes of Point C – and this doesn't require oodles of power. It requires just about enough power, that's all.

But since when has 'just about enough' been any fun? Power corrupts, as the old saying goes, and absolute power corrupts absolutely – and if you're not interested in being absolutely corrupted by a frightening display of unnecessary power then, frankly, you're probably reading the wrong magazine. Give in to it is what we say. Let the horsepower wash over you. Too much is never enough.

Ian Phillips knows the score. Better known to the world in general as 'Bizz', he's the man

who conjured up the vision to spirit this rather aggressive 350Z into being. Ever thirsty for increasingly scary slugs of horsepower, and factoring in the need to keep said horsepower reliable in the smokin'-hot crucible of competitive drifting, he spurned the coupé's Eastern powerplant and instead turned his gaze to the USA. Ain't no replacement for displacement over there – if there's one country in the world that truly epitomises the 'bigger is better' ethos, it's our chums across the Atlantic. Yes, Bizz

has stuffed a Yankee V8 into his Japanese drifter. Now, allow us to investigate why this is a good thing...

We'll start at the beginning, shall we? When did Bizz first start getting the itch to climb behind the wheel – sixteen, seventeen years of age? 'No, I was eleven when I got my first car!' he laughs. 'I cut my teeth throwing it around the farm, and that's what turned me into a full-on auto enthusiast. I bought a Renault 5 GT Turbo when I was 17, which I took apart and rebuilt from the



'THE GM LS3 6.2-LITRE V8 CAME FROM A 2010 CAMARO SS AND IS A GREAT PIECE OF ENGINEERING'



ground up – that was my first ever time doing that kind of thing; it was a great little car but terrifying with it!

It's likely that many of you out there took your first fledgling steps into motoring in a French FWD hatchback – there are rather a lot of them – but as much as they can teach you about chassis balance and extracting the most fun with relatively meagre power, they're not really set up for power oversteer, are they? And this was something in his life that Bizz wanted to remedy.

'I started drifting in 2008 at the Drift Allstars Academy at Teesside Autodrome, which was

the first time I had driven a rear wheel-drive car,' he recalls, smirking as the nostalgia washes over him. 'I really enjoyed it and couldn't wait to have a go in a car of my own; I then sold my very nice SEAT Leon Cupra R and bought a '96 R33 Skyline GTS-T, which I quickly fitted with a bucket seat, hydraulic handbrake and KAAZ 2-way limited-slip diff, and it all started from there.' The modifications gathered pace with a rollcage, bigger brakes, more steering lock, wider track, more power and, before he knew it, Bizz found himself winning the BDC Semi-Pro Championship in 2010. There's

clearly some sort of natural gift at play here.

It was at this point that the V8 appeared. 'The GM LS3 6.2-litre V8 came from a 2010 Camaro SS and is a great piece of simple engineering from the US,' he explains matter-of-factly. 'With 430bhp out of the box it made for a very reliable way of getting lots of power and torque. With the help of Dyno Torque in Birmingham, the engine was soon in the mid-500s on both torque and power, and with the engine being naturally aspirated I don't have to worry about a turbo, boost leaks and so on, which is great for me.'

But even though his trophy cabinet was filling with silverware and he had a badass V8-powered Skyline in the garage, Bizz wanted more. Honestly, some people are never satisfied are they...?

'After owning the R33 for a few years, I felt like it was time for a change,' he says. 'I wanted to try driving a new type of chassis, something shorter to make it a bit quicker in transition and with more grip from the start. It came down to a choice between the R34 GT-T and the 350Z, and I was put in touch with someone that had a Z-car shell with no engine for sale, with spares, for

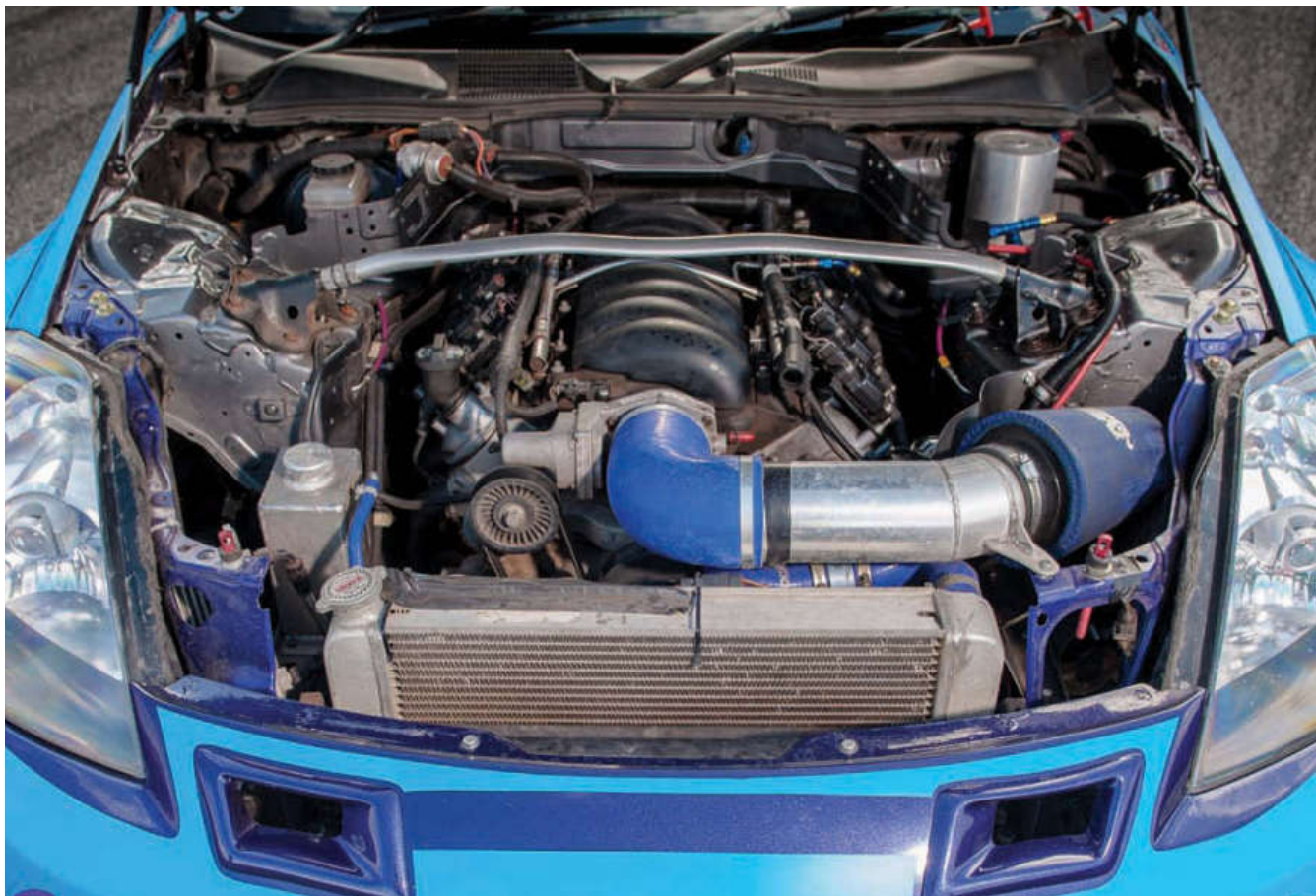


a good price. The rest is history! And the fact that it was originally built for a V-engine made my life a lot easier as I was keen to get the Skyline's V8 in there, too...'

So, the irrepressible Bizz found himself with a reasonably straight 350Z shell, albeit with some damage to the front end and the suspension, and immediately began drawing up a plan of action. The intention from the outset was to strip the whole thing down to bare metal, stitch-weld the chassis, throw in the V8 and a huge rollcage, and build it up as a bona fide racecar from first principles.

COLLAR AND CUFFS
TARMAC SPORTZ IS A VERY MODERN AND SWITCHED-ON SORT OF OUTFIT. IT OFFERS AFTERMARKET AND PERFORMANCE PARTS FOR A BROAD RANGE OF JAPANESE CARS, BUT IT'S THE FIRM'S INVOLVEMENT IN THE SCENE THAT MARKS IT OUT. TARMAC'S BOSSMAN CHRIS GERAGHTY AND THE BOYS ARE ACTIVE ON VARIOUS FORUMS AND VOCAL ON SOCIAL MEDIA, KEEPING A FINGER ON THE PULSE SO THEY KNOW JUST WHAT THEIR CUSTOMERS WANT. THIS IS HOW THEY FOUND BIZZ AND HIS PROJECT, AND THE CAR NOW SPORTS ALL MANNER OF BODY ADDENDA FROM TS, INCLUDING THE NISMO V2 FRONT BUMPER, V2 SIDE SKIRTS, REAR WING, CARBON-FIBRE BONNET AND CHARGESPEED REAR BUMPER. BIZZ HAS SNUCK IN A NEAT LITTLE NOD TO THE ENGINE'S NATIONAL ORIGINS, HOWEVER, WITH THOSE STILLTEN REAR QUARTER VENTS LOOKING DISTINCTLY MUSTANG-LIKE!





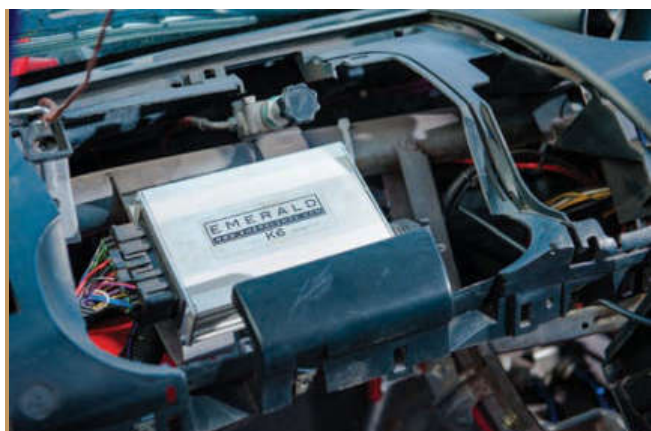
'Having the V8 from my Skyline made the choice very straightforward,' he explains. 'Fitting the engine into the R33 was a challenge due to the larger transmission, but getting it into the 350Z was a dream. I made my own engine mounts and kept test-fitting the engine until the gearstick came through the OEM hole. Making my own kit worked out better, as I could get the engine lower and further back than the kits currently on the market; with me using the R34 diff I would have needed to make a custom propshaft anyway, so that wasn't a concern. I also went for a custom engine harness to reduce complexity, and to pick up the sensors I required and feed that to the Emerald K600 ECU with Race Tech DASH2.'

As you've no doubt deduced, Bizz was very keen to get involved in as many aspects of the build as he could, although this is far from a one-man show. Jason at Clark Customs took care of the rollcage, the custom exhaust system and a lot of the unique fabrication that was required, while mapping the engine was entrusted to the eggheads at Emerald. Craig at Dyno Torque was responsible for ensuring the engine got a clean bill of health, and Bizz is keen to highlight that the build couldn't have happened without this effervescent cast of characters.

'There were many hurdles to overcome though, with suppliers letting me down with late or missing deliveries, poor parts or poor service, it was a

stressful build,' Bizz remembers with a sigh. 'With the budget for the car constantly being eaten away, compromises were also needed to make sure the end result was still what I wanted. The build took about sixteen months from the car arriving in my garage to it rolling out for its first demonstration at the Norfolk Weekender, and I documented the full build on the 350Z-UK forum, where it had over 40,000 views and lots of positive response, and it was this that led to me getting in touch with Chris at Tarmac Sportz.' Inspired by the engineering ingenuity of the build, Chris approached Bizz with an offer of help to support the build, thereby ensuring that any of the aforementioned compromises were minimised.

WHAT IS AN LS3?
GENERAL MOTORS' FAMILY OF SMALL-BLOCK V8S IS BEWILDERINGLY BROAD, POWERING EVERYTHING FROM CORVETTES TO PICK-UP TRUCKS, SPEEDBOATS AND EVEN LIGHT AIRCRAFT. THE LS3 IS PART OF THE GENERATION IV SMALL-BLOCK FAMILY, PRODUCED FROM 2005-14, AND IF YOUR PERCEPTION OF AMERICAN V8S IS ONE OF ARCHAIC AND BASIC ENGINES THEN PREPARE TO BE CHALLENGED: GENERATION IV FEATURED ALUMINIUM BLOCKS AND HEADS, SEQUENTIAL MULTI-PORT FUEL INJECTION, VARIABLE VALVE TIMING, AND UNBURSTABLE STRENGTH. THE 6.2-LITRE LS3 WAS BROUGHT IN AS THE CORVETTE'S BASE ENGINE FOR 2008, STARTING AT 430BHP; BIZZ'S BENT-8 HAS BEEN TWEAKED UP TO 550BHP, WHICH IS STILL A VERY SAFE LEVEL FOR ENGINES OF THIS STRENGTH. THEY RESPOND VERY WELL TO SUPERCHARGING, TOO - SOMETHING TO THINK ABOUT, BIZZ?



'WITHOUT THE HELP OF TARMAC SPORTZ THE CAR WOULDN'T BE WHAT IT IS TODAY'



'I posted about everything that was happening with the car, good or bad, and he said that he would help where he could with parts for the car itself; wheels, brakes, body kit and so on,' says Bizz. 'Chris has fully supported me throughout the entire process and has helped to set up links with other companies when I am after parts that he doesn't supply – without the help from Tarmac Sportz the car wouldn't be what it is today, that's for sure!'

Since completion, the 350Z has been flexing its considerable muscles in the British Drift Championship as well as the Extreme Torque Show (which bills itself as an 'all-action stuntfest', rather than being some kind of hideous dystopian Jeremy Kyle pressure cooker),

and it's been very well received thanks to its propensity to shred its Nankangs at a moment's notice, flames popping from the twin central exhaust tails which are high-mounted for extra theatricality. It's a true assault on the senses. 'Even with the rough life a drift car has to put up with, the 350Z gets a lot of attention from men, women and children, and always looks smart out on track,' says Bizz.

And so, what of his future plans? We bet he has a few... 'Oh yes, I plan to give the car more grip in the future, and to make it faster in the drift by changing the geometry, tyres and some suspension components. I'm currently thinking about putting the V8 on throttle bodies, too, to increase

the response of the engine and hopefully extract more power from it. There are always little jobs, little improvements, it never stops!' he smirks.

This sentiment really hits the nail on the head. Why did he choose an American V8? For its simplicity and ready, reliable horsepower. That makes sense. But it doesn't start and end there, the car has myriad facets that can be tweaked, honed, reworked, re-evaluated...in the fast-paced evolution of competitive drifting, you have to stay on top of the game. That's right where Bizz is with this glorious Frankenstein's monster. But he knows that he has to keep moving – onwards, upwards and, most importantly, sideways. 🏁

ENGINE

GM LS3 6.2 V8 (from a Camaro SS 2010), high lift Comp Cam, forged valves, solid pushrods, Comp Cams double beehive springs, Emerald ECU, BizzMod wiring harness, BizzMod engine mounts, Moroso custom oil pan, Clark Customs bespoke long tube headers, Clark Customs 2.5in cross over exhaust system, remote thermostatic oil filter relocation, Mocal engine oil cooler, Turn One high performance power-steering pump, Mocal power-steering cooler, Griffith large capacity alloy radiator, K&N air filter with dust cover

POWER

550bhp and 550lb ft

TRANSMISSION

Tremec TR6060 6-speed transmission, BizzMod transmission mount, Nissan R33 GT-R rear diff, Nissan R33 GT-R driveshafts, Dr. Prop custom prop shaft, Clark Customs modified rear subframe, Clark Customs modified rear hubs, Mocal transmission cooler and thermostatic plate

BRAKES

Brembo Race 4-pot calipers with 14.1in grooved discs (front), 350Z Brembo calipers with Tarmac Sportz grooved discs (rear)

SUSPENSION

BC ER-series True coilovers, GT Max lock kit, GT Max rear arms, Whiteline polybushes, SPL front camber arms, Whiteline ARB drop links, Eibach front and rear anti-roll bars, Bram Racing alignment

WHEELS & TYRES

9.5x18in (front) and 10x18in (rear) Cosmis Racing MR11 with 245/40/18 Nankang NS2R tyres (front) and 265/35/18 Achilles ATR tyres (rear)

INTERIOR

Corbeau custom bucket seats, Luke 4-point race harnesses, Race Technology Dash 2, OBP brake bias valve, OBP hydraulic handbrake, OBP line lock, Momo deep dish steering wheel with Snap-off boss, Clark Customs multipoint weld-in rollcage

EXTERIOR

Tarmac Sportz carbon bonnet, Tarmac Sportz Lexan rear window, Tarmac Sportz Nismo side skirts, Tarmac Sportz rear bumper, Tarmac Sportz V2 front bumper, Tarmac Sportz rear wing, Tarmac Sportz wing mirrors, Tarmac Sportz rear quarter gills, custom Tarmac Sportz vinyl by TopSigns in Hexham

THANKS

'There are many people I would like to thank for this build. My girlfriend and family for their constant support through the build, Jason at Clark Customs, Brad at Bram Racing, John and Dave at Emerald ECU, Craig at Dyno Torque, 350z-uk.co.uk, TopSigns, Eden Tyres, Slide Motorsport, Project Touge, Cosmis Racing USA, and Corbeau Seats.'

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FAT BOTTOMED GIRL

RUNNING A SET OF HUGE 12X18IN REAR WHEELS TUCKED UNDER RIDOX WIDE ARCHES, SHAWN PREECE'S SEDUCTIVE 690BHP SUPRA MAKES THE TUNING WORLD GO ROUND...

WORDS: DAN SHERWOOD PICS: OLLIE WILDSMITH

I like big butts,' laughs 28-year-old Shawn Preece, quoting Sir Mix-A-Lot's hip hop classic when we meet him and his brawny Toyota Supra at a deserted multi-storey car park in his hometown of Hereford. 'But it's not all about the aesthetic,' he continues, 'as it also needs to perform to get my juices flowing.' Of course, Shawn's not talking about a fetish for Kim Kardashian, even though Kanye's bird's derriere

certainly fits the oversized description. No, he's more interested in the exaggerated curves that make up the rump of his stunning Supra. You see, when Shawn first bought the car it was rather lacking in the looks department, even though the previous owner had seen fit to carry out what is likely to be most Supra owners' dream set of modifications already.

'When I bought it, the car looked completely stock,'

explains the mechanical design engineer turned personal trainer. 'However, the factory twin turbo setup had been swapped for a big single turbo and the automatic transmission had been converted to a six-speed manual. These two combined were really the reason I bought the car, as they were two of the major modifications that I was planning on doing to the car myself that were already





completed at the start.'

This car being the sixth Supra that Shawn has owned, means he knows his onions where Toyota's slippery-shaped coupe is concerned and felt that this was the perfect base to create his ultimate Supra vision.

'I've had all manner of different performance cars over the years, but something just keeps drawing me back to Supras,' laughs Shawn. 'Whether it's the potent shove from the 2JZ-GTE motor or the sleek styling, I just seem to be hooked on them. And when I

saw this one come up for sale, it was so clean and well maintained – not to mention already packing the perfect engine and transmission package – that it was just too good an opportunity to miss.'

Shawn handed over the cash to become the car's latest owner on 10th January this year, but he only enjoyed it on the road for a week and a half before beginning his master plan in earnest.

'I planned to have the car finished to debut at the Japfest show at Castle Combe in May,

so I took it off the road and began the task of stripping the interior and exterior to begin the transformation.'

Having given the car a fair share of abuse in the short time that he'd owned it, Shawn was only too aware of the major drawback to having almost 700bhp at his disposal.

'With all that power and still running the standard wheels and tyres, the car was a real handful,' he explains. 'Every time you tried to accelerate hard the rear wheels would light up and the back end would try

and overtake you! It was almost undriveable really and was in dire need of extra grip.'

From the experience gained from his previous Supras, Shawn knew that the only way to contain all that mammoth power and torque was to rubber up. However, fitting enough of the sticky black stuff to keep the rear end in check would need some pretty hefty wheels, which in turn would require some suitably beefy arches to accommodate them.

'Wide arch was the only real option if I wanted to make the





car driveable,' Shawn says. 'It also meant that it would look incredible, too, as Supras always look great with wide arches and fat rubber, so I started looking at my options.'

Shawn considered the Top Secret wide body kit but felt that it was just too lairy, so eventually settled on a Ridox kit, which is not quite as wide and is slightly more subtle yet still gives the Supra a super-aggressive look with its bolt-on arch flares.

'I bought the kit secondhand from a guy in Walsall who was

breaking his Supra for spares,' recalls Shawn. Unfortunately, this is the way that many of the UK's best Supras ultimately meet their end as they are worth so much more in parts than as a complete car. The upside to this car cannibalism is that the demise of one Supra can be the catalyst for many more to come in its place, as keen owners snap up the best parts for their respective projects. 'Luckily, most people simply rivet the Ridox kit to the body, so after drilling out the rivets the kit can actually

come off very cleanly, which was perfect for me as I was planning on blending it in, so didn't need the bolt holes to be perfect, which saved me some serious cash over buying the kit brand new.'

Shawn bought the entire kit barring the front arches from this sale, as he'd already lined up these parts, along with the fully

retrimmed red leather interior, from another Supra being broken in Bicester.

'The guy in Bicester worked in Formula One and the attention to detail in his car was incredible,' Shawn enthuses. 'He'd modified the front arches so they fitted perfectly around the headlights, which is a common problem

WIDE BOYS
RIDOX IS THE AERO-PARTS BRAND OF THE D1GP AND SUPRGT DRIVER MANABU 'MAX' ORIDO. RIDOX CURRENTLY SPECIALISES IN AERO-DYNAMIC MODIFICATIONS FOR THE TOYOTA SUPRA JZ480, WHICH ALSO HAPPENS TO BE THE PERSONAL CAR OF ORIDO. THE COMPANY IS BASED IN YOKOHAMA, JAPAN, WHICH IS ALSO HOME TO CAR MAKE T&E OWNED BY ANOTHER D1GP DRIVER AND ORIDO'S GOOD FRIEND, TAKAHIRO UENO. RIDOX-KITTED SUPRAS ARE STILL A PRETTY RARE SIGHT ON UK ROADS, PARTLY DUE TO THE PRICY NATURE OF THE KITS, BUT IT HAS TO BE ONE OF THE BEST LOOKS FOR THE CAR AND ALLOWS ROOM FOR SOME SERIOUS RUBBER TO MAKE THE MOST OF ANY EXTRA PONIES UNDER THE BONNET

'WITH 700BHP AND STANDARD TYRES IT WAS ALMOST UNDRIVEABLE'





with these kits. The Ox-blood leather interior was also immaculate so I snapped them up straight away.'

And with his interior and exterior makeover ready to go, Shawn got down to work installing his new purchases on his parents' driveway, and with the deadline for Japfest looming there was no time to spare.

'I fitted the new interior and tacked on the Ridox kit before driving the car up to Newcastle-based

bodywork specialists Scuffed 'n' Kerbed to be fitted properly and blended into the body for a unique, smooth look,' Shawn says. 'They are not exactly local to me, but I chose them to do the work on the car as they had fitted a Ridox kit to a Supra before, so I was confident that they knew what they were doing and would do a good job fitting it to mine.'

Six long weeks later, Shawn got the call to say that the Supra was ready for collection.

'Even with the standard wheels tucked inside the bloated arches the car looked

amazing,' he remembers. 'I'd also got Scuffed 'n' Kerbed to fit the high-level carbon GT wing, too. I'd originally intended to go with a TRD item, but after offering it up to the car when the arches were first tacked on, I decided it just wasn't big enough. The benefit of the big wing is not just cosmetic, though, as that also helps add downforce at the rear to further improve traction, which was ultimately the main reason for the kit in the first place.'

With the car now back in his possession Shawn needed to sort the rolling stock and only a

set of 12x18in ET20 rims with 315-section tyres were going to be man enough to fatten up the Supra's butt to his satisfaction.

'The choice of designs and brands that produce that size of wheel is pretty limited if you don't want to be shelling out close to £5k for the wheels alone,' explains Shawn. 'Luckily I came across the Rota GTR-D wheels which came in the exact staggered size and offset I needed at a reasonable price.'

The Hereford-based Supra-fan then wrapped his new hoops in some sticky Toyo R888 rubber, before giving his

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ENGINE

3.0-litre, 6-cyl, 24v 2JZ-GTE, Boostlogic T67 DBB turbo kit with 3in downpipe, HKS 50mm wastegate, HKS blow off valve, HKS front-mount intercooler, 4in induction pipe with K&N air filter, HKS EVC4 boost controller, Aquamist direct port water/methanol injection, HKS VPro gold v3.2 ECU, HKS fuel rail, HKS 1000cc injectors, Boostlogic twin fuel-pump system and fuel regulator, JUN-based inlet manifold with Q45 throttle body, aluminium radiator, GRReddy oil catch tank, HKS timing pulley, HKS DLI side-mounted oil cooler, side-mounted power steering cooler, HKS knock amp air-flow meter, HKS fuel adjustment controller, battery and washer bottle relocated to boot, carbon-fibre spark plug cover, polished parts including oil cap, radiator plinth, fuse box cover, relay box cover and fan surround, 3in Garage Whifbitz stainless steel de-cat exhaust system
Max power: 690bhp
Max torque: 620lb ft

TRANSMISSION

V160 6-speed manual gearbox

BRAKES

UK-spec brakes with uprated fast road pads and braided brake lines, brake calipers painted Rosso red with white Supra logos

SUSPENSION

Tein adjustable coilover suspension, Whiteline front and rear anti roll-bars, Cusco strut brace

WHEELS & TYRES

10x18in ET35 (front) and 12x18in ET20 (rear) Rota GTR-D wheels in white with 265/35/18 and 315/30/18 Toyo R888 tyres, respectively

INTERIOR

Full interior re-trim in Ox-blood red and black leather including Recaro Speed reclining sports seats, TRD steering wheel, carpet dyed black, carbon-fibre upper glovebox, centre console lid and ashtray lid, EGT sensor/gauge, fuel pressure gauge, oil pressure gauge, Sparco gearknob, dash camera, GT art dials, blue LED instrument conversion, polished dash rings, Kenwood double-din DVD headunit

EXTERIOR

Full Ridox bodykit including front bumper with carbon splitter and canards, wide front arches (+30mm), fully blended wide rear arches (+50mm), blended side skirts with carbon-fibre lower section, carbon-fibre GT rear spoiler, carbon-fibre air diverters, UK-spec bonnet, LED rear lights, UK glass xenon headlights, aerial removed and smoothed

THANKS:

Paul Guy at Scuffed 'n' Kerbed for the body work, My dad David for his help and support, and my mate Lee Pritchard for the loan of the ramp and all the help along the way

stock UK-spec calipers a lick of gloss red paint and fitting the new rims.


'Apart from adding a few extra fine details like carbon and polished engine dress up parts, an LED instrument conversion and swapping the HKS suspension for a set of Tein adjustable coilovers with Whiteline front and rear anti roll-bars and a Cusco strut brace, the car was complete,' says Shawn. 'It was pretty touch-and-go as to whether it would be ready for Japfest, but by working flat out on it whenever I had any spare time the week leading up

to the show I managed to get it finished the night before.'

Needless to say, Shawn reports that the reception that the newly super-sized Supra received at the show was overwhelmingly positive as show-goers lapped up the smoothed lines of the Ridox kit and the luxury of the leather interior.

'Yeah, it got loads of attention at the show,' he confirms. 'But to be honest, it's the way it drives now that is the most impressive. Rather than slewing sideways every time you as much as touch the gas pedal, it just squats and goes now. It's a real weapon and

you can use much more of the performance more of the time. Dynamically, it's really been transformed.'

Shawn's understandably happy with the way his Supra has turned out. Before he acquired it, it had the power and the transmission but lacked the visual appeal and tractability that only a Supra with some serious junk in its trunk can supply. So the next time you think of putting your car on a diet to improve its performance, remember that a fat ass not only attracts the best kind of attention, but it also gives the best ride too! 



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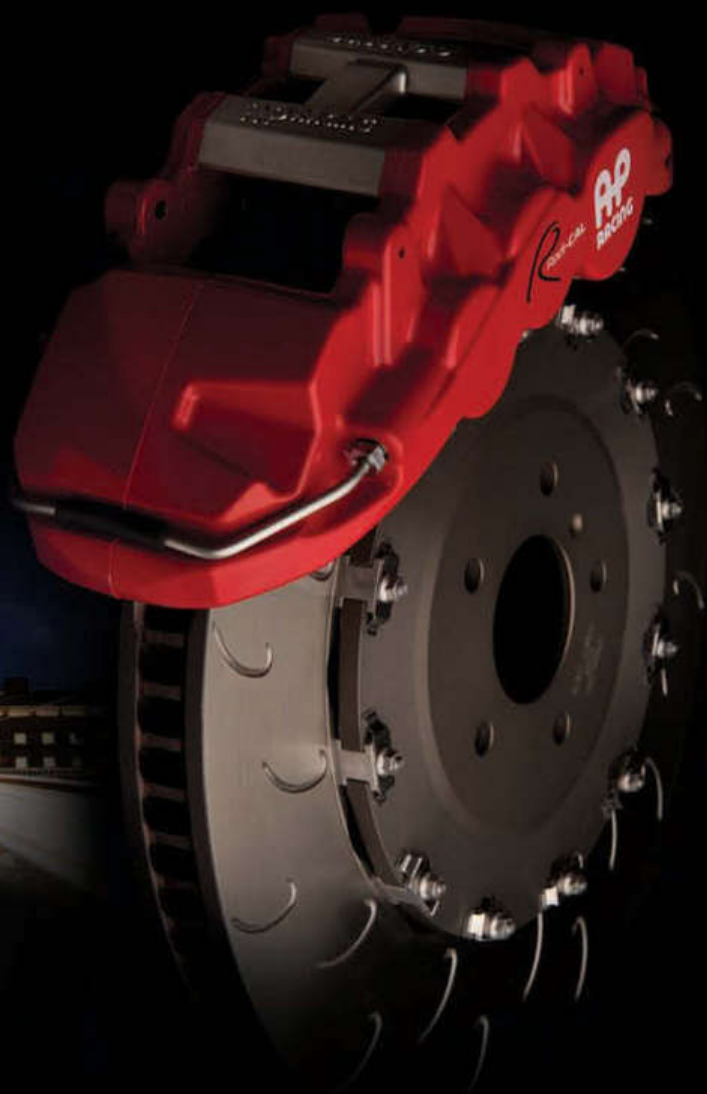
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ATTACK CHALLENGE IN ITS DEBUT
SEASON, THE 'BLACK MAMBA' EVO
HAS LIVED UP TO ITS FEARSOME
NICKNAME

WORDS: DAN GOODYER PICS: SIMON MISKELLY

Naming a car before you turn up to the track is a risky business,' admits Andy Demetriou Papageorgiou, the owner and driver of this savage Time Attack Mitsubishi Lancer Evo. Andy P, as his tongue twister of a name is often shortened to, adds: 'The last thing you want to do then is turn up and run around at the back. It would be a bit embarrassing to say the least.' So by calling his car 'Black Mamba', a deadly snake famous for its speed and deadly venom, Andy made his intentions clear and put his neck on the line. Several months later, his choice of name was fully justified as he won the first ever European

Time Attack Challenge at TT Circuit Assen in the Netherlands, on September 6th, setting a new lap record of 1:42.759 in the process.

Building a Time Attack car is tricky, every aspect of the car has to be improved. From the engine, to the suspension and brakes, it all needs to be carefully upgraded to maintain a tuning balance. Building a top-level Time Attack car, however, one that can compete at the summit of 'Pro Extreme', the fastest class in UK Time Attack, requires a whole lot more dedication, financial investment and, most importantly, knowledge.

Getting the right team together is vital. Time Attack

has kicked on again in recent years. It is now genuinely the Formula One of road cars. Don't believe us? How about drag reduction systems, full slick tyres, anti-lag, nitrous oxide injection, expensive data-logging and analytics, it's all been used in UK Time Attack this year. Engineers and aerodynamicists from top-level motorsport and beyond are getting involved with projects across the globe, and cars are going faster than ever before. With Andy behind the wheel, this menacing, aero-clad monster has already proved itself to be amongst the elite few in this world of ultra-tuned lap-time chasers.

So what lies at the heart of





'AERO HAS BECOME VERY IMPORTANT IN TIME ATTACK'

PAST MASTER

'I USED TO RACE A 750KG RADICAL SR8, A LIGHTWEIGHT AND FULLY AERO CAR. AT SNETTERTON, MY BRAKING POINTS ON BOTH STRAIGHTS ARE IN EXACTLY THE SAME PLACE IN THE 1180KG MAMBA. IT'S INCREDIBLE REALLY. IT JUST SHOWS WHAT A GREAT CAR THE GUYS HAVE BUILT. THE WIDE DUNLOP SLICKS CERTAINLY HELP AND THE AP RACING BRAKES ARE VERY EFFECTIVE.'

this beast? It's probably more relevant to discuss what isn't there. Most of the chassis has been removed and the main structural part of the car is now a comprehensive rollcage. Andy admits he could have made do with a less complex one around 20kg lighter but, should the worst happen, it's good to know he has the extra protection which, in-turn, gives him extra confidence to push the Evo to its absolute limits and beyond.

The front-end is now completely space-framed, so it's much lighter than it was before. Over the top is a carbon-fibre skin produced by Reverie, designed to produce as much downforce as possible. We're talking genuine pressure that pushes this car into the track at high speeds, not simply a rear wing with a Gurney flap. Aero has become an increasingly important aspect of top-level Time Attack competition, and the best bit is that, when it comes to road cars, no-one has a definitive solution. We're still in the stages of testing theories and pushing the boundaries, and that makes every Time Attack car look different and the lap-time comparisons extremely exciting.

More aero means more

drag, so a lot of power is required to push the four-wheeled parachute forwards. Andy has experimented with several engine specifications this year, all built by Nick Kouta at Nicks Garage in Cyprus. Andy is a Greek Cypriot and has travelled over to the UK for every event, along with his car and his IPVDX team. Just getting to an event has been a huge investment of time and money, even before a wheel is turned. Andy admits: 'I could have done some pretty serious racing with the budget we've spent this year.'

Andy is a man that knows motorsport, too. While many Time Attackers progress up through the ranks in their road car, gradually improving their driving skills and their car's

capabilities, Andy has effectively made the switch from full-on motorsport. He's raced in all sorts of championships, from Caterhams and Radicals, to the Porsche Carrera Cup, Britcar and even the British GT Championship!

So why make the switch to Time Attack? Andy explains: 'It's always intrigued me. In Cyprus there is no door-to-door racing, every form of motorsport out there is one-at-a-time against the clock; sprints, hillclimbs, etc. So I guess you could say that it's part of my racing culture. I tried the Night Attack at Brands Hatch last year, in a Ginetta G55 prepared by Century Motorsport. That definitely got me going. Driving a great track, in the dark and wet, competing against the





Mosler and 1000bhp Nissan Skyline GT-R? I loved every second of it.'

This wasn't Andy's first experience of Time Attack, however. That was way back in 2013, when he took an Evo VI to Australia for the World Time Attack Challenge. He managed

fourth place in ProAm and set the fastest lap by a European in Time Attack history, going two seconds faster than the Redrick Racing Evo had done previously. It was also the beginning of this Evo's story, thanks to a chance encounter.

Andy explains: 'That was

where I met Johan Drenth, founder of the transmission specialists Drenth – that changed everything.' Johan was impressed with Andy's pace, especially considering his car was much less developed than his competition. In fact, Andy's Simply Racing team

POWER HUNGRY
WHEN THE ENGINE WAS FIRST DYNOD IT PRODUCED 890WHP @ 2.5BAR ON VP RACING 26 FUEL. MORE THAN ENOUGH POWER. HOWEVER, ANDY HASN'T YET RUN THE CAR AT 100% ANYWHERE. HE'S BEEN FIGHTING RELIABILITY ISSUES ALL YEAR, SO IT'S NEVER BEEN TURNED UP TO ELEVEN. IN FACT, HE WON THE ETAC WITH A HASTILY-BUILT 2-LITRE ENGINE RUNNING 700WHP AT 2BAR OF BOOST THAT'S STILL CRAZY POWER ADMITTEDLY, BUT THERE'S ANOTHER STEP IN PERFORMANCE READY TO BE HAD, ESPECIALLY IF ANDY DOES GO FOR THAT BILLET ENGINE NEXT YEAR





**WHEELY LIGHT
BEFORE THE EUROPEAN TIME
ATTACK CHALLENGE (ETAC), ANDY
SWAPPED THE OLD 12X18IN
DYMAG WHEELS FOR A SET OF
LIGHTER 11.5X18IN BRAID RIMS.
HE'S FELT AN IMMEDIATE
IMPROVEMENT, HIGHLIGHTING
HOW IMPORTANT UNSPRUNG
MASS IS**

took two Evos there. Neither had the firepower of their opposition, they didn't even have dry sump systems. With no testing before the event, either, Andy's performance was even more impressive. That's when Johan approached Andy about getting involved in his next project.

'Drenth came on board as a sponsor, starting with two sequential gearboxes equipped

with the Geartonics paddle-shift system. I've been really impressed with Johan's support, he's given us everything he promised and more.' One limitation of the 2015 gearbox setup has been the 'box uses an OEM bellhousing with Drenth internals. Next year this is going to be swapped out for a one-piece custom bellhousing, part of the big

changes Andy has planned.

We haven't given lots of engine specs in the Tech Spec because a lot of it is top secret. Not the Japanese tuning company of course, but half the battle in Time Attack is finding new ways to go faster. The last thing you want to do is give away this hard-found info to your rivals. What we can say is the Nicks Garage engine is based on a 2.0-litre Lancer Evo

block, with fully forged internals and a large Garrett turbo.

Much of the custom-fabricated stuff like the exhaust manifold the turbo sits on, and the titanium exhaust system it breathes out of, has been created by Mario Kofteros. He's also the man responsible for the chassis work, cutting large chunks out of the Evo to make it lighter and handle better.

JP Motis is another





EASY RIDER

'BLACK MAMBA IS SO EASY TO DRIVE. I HAVE TO GIVE CREDIT TO THE GUYS WHO BUILT IT. THAT'S THE DIFFERENCE BETWEEN THIS AND A ROAD CAR. WHEN YOU HAVE A VERY FAST ROAD CAR, YOU HAVE TO WORK VERY HARD TO KEEP IT POINTING IN THE RIGHT DIRECTION. WHEREAS THIS, I FIND VERY EASY TO DRIVE.'

important name that deserves recognition. He created the custom wiring loom on the car and takes care of all the electrics. He's also the man responsible for mapping the MoTeC ECU. This is a massively important part of Time Attack, with logs being taken at all times through a range of associated MoTeC goodies. This isn't like a road car, where you might map the car once and leave it at that. The maps are constantly trimmed to extract maximum performance from the engine, again, just like in Formula One.


There's already a few notable names from the world of motorsport involved with the car, including Fraser MacKellar, a well-known name from the world of rallying. Fraser has helped

with some of the technical issues, including setting up the differentials to make the car react more to Andy's liking. Then there's Stephen John Glover. He had a specific role when it came to the European Time Attack Challenge victory.

'Stephen has worked on the chassis, and it was his idea to swap the KW suspension we started the year on, for some Öhlins,' explains Andy. 'That made a huge difference. We were up against all sorts of cars, including a factory Nissan GT3 GT-R!' The fact Andy managed to beat the V8-engined GT monster is incredible!

As for Andy's assault on the UK Time Attack Championship, well, that had high and low points. The highs included breaking the Time Attack lap record at Brands Hatch, going faster than both Gobstopper I and II have ever gone, for example. The lows involved a series of niggling technical issues that stopped play on several occasions. Bugs that Andy is determined to fix in 2016.

'We have lots of changes planned,' admits Andy. 'I had a chance meeting with a Formula One aerodynamicist recently. I can't say too much, but a couple of hours in his company highlighted lots of areas we could improve; where the chassis could be stiffer, the geometry could be improved, the mechanical balance fine-tuned, etc. I'm thinking about a billet engine block now. I'd like to have a proper go at the UK Time Attack Championship, I see it as the most professional and competitive competition in Europe. After that, we have to go back to the World Time Attack Challenge and show them what we can really do!'

We like the sound of that. Andy's roots may lie in racing, but it's clear he's fully made the switch to the world of hyper-tuning, pushing boundaries and doing things no-one has done before. He's clearly a talented driver and his 'Black Mamba' is as deadly as it sounds. Let's see if he can take a bite out of the competition in 2016. 

ENGINE

2.0-litre, 4-cyl, 16v 4G63 Evo VIII block built by Nicks Garage, JE forged pistons, K1 con-rods, K1 88mm crankshaft, ARP bolts, dry sump conversion, Tomei camshafts and adjustable pulleys, HKS intake, Full-Race exhaust manifold, Garrett turbo, Turbosmart external wastegate, Vibrant hoses, Magnus Motorsport coil pack, NGK spark plugs, MoTeC M800 mapped by JP Motis, MoTeC CDI, MoTeC PDM, 2000cc fuel injectors, extensive fuel system featuring 3x Bosch 044 fuel pump, custom intercooler and exhaust by Marios Kofteros Power: 890whp+

TRANSMISSION

5-speed Drenth sequential gearbox, Geartronics paddle shift system, Custom Clutch quad-plate clutch, lightweight flywheel, Cusco front limited-slip differential, OS Giken rear limited slip differential, Sheptrans upgraded ACD unit, The Driveshaft Shop driveshafts

SUSPENSION

Custom Öhlins TTX coilovers, RaceFab subframes, RaceFab control arms, Whiteline anti-roll bars

WHEELS & TYRES

12x18in Dymag black alloy wheels, since swapped for 11.5x18in Braids. Dunlop slick tyres

BRAKES

6-pot AP Racing calipers with 356mm discs (front), 4-pot AP Racing calipers with 320mm discs (rear), AP Racing pedal box

INTERIOR

Custom Cages heavy-duty rollcage, MoTeC C125 dash, Cobra bucket seat, Takata harness, Sparco fire extinguisher system

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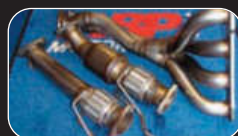
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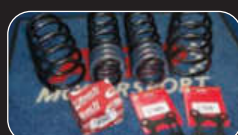
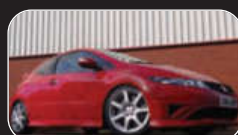
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PIPER ABP exclusive Single-box cat-back stainless steel exhaust system.....	£349.00
These exclusive to ABP Piper single silencer systems are quite simply a must have. Superb fit, beautiful quality, amazing soundtrack and good power gains. System has a 6x4" oval tailpipe.	
PIPER Twin-box cat-back stainless steel exhaust system As above but with 2 silencers - same power with less sound!.....	£399.00
PIPER Stainless Steel Race exhaust manifold & stainless de-cat pipe.....	£498.00
PIPER Stainless Steel Race exhaust manifold & 200CEL Sports Cat.....	£678.00

Independent rolling road tests show an incredible increase of +22BHP using a PIPER manifold, de-cat and exhaust system on the EP3 Type R!

DC SPORTS Stainless steel SC3 cat-back exhaust system (4" round tip).....	£430.00
DC SPORTS Stainless steel SHORTY exhaust manifold (uses original cat).....	£375.00
DC SPORTS Stainless steel RACE exhaust manifold (removes catalyst).....	£395.00
All DC Sports items are beautifully crafted in polished stainless steel and offer fantastic looks and power gains.	
The SC3 system comes with a removable silencing baffle ideal for track days.	
O2 simulator (removes ECU light with race manifold fitted).....	£70.50
HKS Hi Power 409 cat-back exhaust system (120mm angled tailpipe).....	£471.90
Stunning JAP style exhaust system with removable silencing baffle and polished 120mm tailpipe	
SUPERSPRINT Stainless Steel straight through 8-pipe.....	£204.00
ENERGY SUSPENSION Up-rated engine mount insert bush kit.....	£26.00
Essential when using any modified exhaust manifold. These also aid traction & prevent wheel hop.	

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

AIR FILTERS

K&N Sports air filter replacement element (lifetime warranty).....	£49.00
K&N 571 Air filter kit.....	£109.00
K&N Typhoon air filter induction kit (wrinkle red finish intake pipe).....	£150.00
AEM CAI Cold Air Induction kit (filter relocated behind front bumper) +15BHP.....	£245.00
AEM V2 Air Filter Induction kit (Unique dual plenum intake pipe) +18BHP.....	£265.00
PIPERCROSS VENOM Sports air filter kit (fully enclosed air box system).....	£175.00

Intake kits make a massive difference to the EP3 Type R offering anything up to +18BHP power gains.

Choosing the right combination of exhaust system and filter kit can add up to +25 BHP power improvements!

SUSPENSION

EIBACH ABP Exclusive -30mm lowering spring kit.....	£150.00
These are the very best springs you can buy for the EP3. Offering the ultimate in looks, handling, reduced roll and better ride quality there really are no downsides.	
EIBACH Pro-Kit -15mm lowering spring kit - All the advantages of our -30mm kits but with less lowering!.....	£159.00
EIBACH Front adjustable camber bolts (essential on lowered cars).....	£25.00
EIBACH Rear fully adjustable camber bolts (to get the very best handling).....(pair)	£135.00
BILSTEIN B4 Shock absorber kit (front & rear shocks).....(set 4)	£385.00
BILSTEIN B8 Sports up-rated shock absorber kit (front & rear shocks).....(set 4)	£655.00
BILSTEIN are arguably the Worlds best shock absorbers, developed on the Nurburgring they offer fantastic chassis control without the extremes of coil-over set-ups. Simply the best real World suspension solution.	
TEIN S-Tech lowering spring kit -20mm.....	£228.00
TEIN BASIC coil over suspension kit (adjustable height only).....	£708.00
TEIN Superstreet coil over kit (adjustable height & damping).....	£804.00
TEIN Superstreet coil over kit with upper mounts (adjustable height & damping).....	£1,080.00
EIBACH 15mm ProSpacer kit (improves looks, steering feel & high speed stability).....	£108.00
JDM Rear Anti Roll Bar (including bushes).....	£102.50
E-TECH front polished alloy strut brace.....	£87.50
E-TECH front wide-bar lightweight alloy strut brace.....	£170.00
ABP Fast Road suspension geometry set-up (including front camber bolts).....	£155.00
This set up in ABP's workshop improves the EP3 massively. Improving turn in, reducing under-steer and offering greatly improved feel & handling. A MUST HAVE MODIFICATION.	

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

BRAKES

STOPTECH Fast Road Front brake pads (set).....	£49.00
STOPTECH Fast Road Rear brake pads (set).....	£38.00
STOPTECH Front Sport Stop Grooved brake discs (pair).....	£190.00
STOPTECH Rear Sport Stop Grooved brake discs (pair).....	£140.00
POWERSLOT Front 350mm Big-disc conversion kit.....	£355.00
Kit uses original caliper and offers superior looks & braking with excellent 350mm discs. Kit comes complete with 350mm discs, caliper relocation brackets and fitting kit.	
STOPTECH Touring 300mm 4-POT Brake conversion kit*.....	£995.00
These new budget 300mm kits use a unique directional veined 300mm grooved disc with the ST41 4-pot caliper. Kit comes complete with discs, calipers, pads, hoses and fitting kit. This kit looks great and performs even better!	
EIBACH 15mm Pro-Spacer kit* (required to fit Touring kit behind OE Honda wheels).....	£108.00
STOPTECH BBK 328mm Brake caliper conversion kit.....	£1,450.00
The legendary Stoptech Big Brake Kit is simply awesome in every way. Using 2-piece 328mm discs and ST40 4-pot calipers the performance on offer from this kit is unreal. Essential for ultra fast road or serious track use. Kit comes complete with 2-piece 328mm discs, alloy bells, calipers, pads, hoses and fitting kit. This kit fits behind the original Honda 17" alloy. Choice of Red or Black calipers	
FERODO DS2500 Front high performance brake pads.....	£99.50
FERODO DS2500 Rear high performance brake pads.....	£91.50
EBC Red Ceramic Front high performance brake pads.....	£87.00
EBC Red Ceramic Rear high performance brake pads.....	£58.00
EBC Turbo Groove drilled & grooved front brake discs.....(pair)	£245.00
TAROX G88 40-Groove high performance front brake discs.....(pair)	£217.00
GOODRIDGE Stainless steel 4-line brake hose kit (zinc plated unions).....	£62.00
MOTUL RBF600 High performance brake fluid (1/2 LT).....	£15.50
FOLIATEC Caliper paint kit (various colours).....	£24.90

OTHER ITEMS

HKS IRIIDIUM spark plugs (set 4).....	£82.00
NEUSPEED Short Shift gear lever kit.....	£95.00
EXEDY OE 3-piece Clutch kit - Fitting service available.....	£195.00
PIAA Headlight bulb upgrade kits (Set of 4 bulbs - sidelight, dip/main beam).....	from £65.00
PIAA Silicone front wiper blade kit (pair of silicone wiper blades).....	£43.00
YOKOHAMA 215/40X17 PARADA Spec 2 tyre.....	£92.00
YOKOHAMA 215/40X17 ADVAN NEOVA A008 tyre (ultimate track day tyre).....	£156.00
ABP recommend changing the original 205/45X17 tyres to the better 215/40X17 size. Wider, slightly lower profile these tyres offer improved handling, grip, feel and they're cheaper!	

SERVICING - See FN2 Listing

**FULL RANGE OF PARTS AVAILABLE FOR ALL MAKES / MODELS
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* Orders must be placed before noon and are only available on stock items (excluding Sunday). Please phone for postage prices on your order

~ EXPORT ORDER ARE WELCOME ~

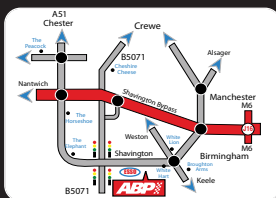
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How to find us



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sales@abpmotorsport.co.uk

Opening Hours
Mon-Fri 8.30am - 6.00pm
Sat 9.00am - 3.00pm



ABP are an official UK importer of STOPTECH brakes and offer the full range of high performance brake pads, brake discs and the AWESOME caliper conversion kits. Used extensively in Time Attack series cars these kits are reputed to be the best available. Full range of 4 & 6 pot kits available for most Japanese cars please call for prices to make your car STOP!

STOPTECH High performance brake pads	from £38
EVO 5-9 & Impreza STI FRONT & REAR brake pad set	£118
STOPTECH High performance grooved brake discs	from £140
Mitsubishi EVO 5-9 Front grooved brake discs	£225
Mitsubishi EVO 5-9 Rear grooved brake discs	£195
Honda Civic Type R FRONT & REAR grooved brake kit	£330
STOPTECH Big Brake Caliper conversion kits	from £995
Honda Civic Type R EP3 & FN2 touring kit (300mm)	£995
Honda Civic Type R EP3 & FN2 (4-pot 328mm)	£1,450
Mitsubishi EVO 7-10 (4-pot & 6-pot kits)	from £1,550
Nissan Skyline R32, 33, 34 (4-pot & 6-pot kits)	from £1,550

Full range available for Honda, Lexus, Mazda, Nissan, Subaru & Toyota



AEM offer the very best intake kits for your Japanese car. AEM lead the way in air filter technology and now use the revolutionary DRYFLOW filter units. ABP are an official AEM importer dealing directly with the manufacturer!

• Massive Range stocked • Excellent power gains • Call for prices

Cold Air Intake Kits	
Honda Integra Type R DC2	£269.00
Honda Integra Type R DC5	£255.00
Subaru Impreza inc. STI (2001 on)	£262.00
Subaru Impreza Inc STI (2008 on) +308HP	£255.00
Mazda MX5 (2006 on)	£275.00
Mitsubishi EVO 10 +168HP	£275.00
Short Ram Intake Kits	
Mitsubishi EVO 7, 8, 9 (inc. heat shield)	£235.00
Nissan 350Z (inc. heat shield)	£315.00
Subaru Impreza inc. STI (2001 on)	£169.00
V2 Dual Plenum Air Intake Kits	
Honda S2000	£275.00
Honda Civic Type R EP3 & DC5 Integra	£265.00



ABP are official importers UK importers of DC Sports products direct from the USA. Products include ceramic coated & stainless steel exhaust manifolds and stainless steel exhaust systems.

DC Sports Exhaust Manifolds	
Honda Civic Type R EP3 Stainless Steel Race manifold - (These fully polished manifolds also remove the catalyst)	£395.00
Nissan 350Z Ceramic Coated tubular sports manifolds (pair)	£475.00
Mitsubishi EVO 5-9 Large Bore Stainless Steel Race Manifold	£399.00
DC Sports SCS Stainless Steel Exhaust Systems	
Honda Integra Type R DC2	£399.00
Honda Integra Type R DC5	£430.00
Honda Civic Type R EP3 (inc. removable baffle)	£430.00
Mitsubishi EVO 7, 8 & 9	£449.00
Nissan 350Z (Sounds like a 911 Race car!)	£699.00
Subaru Impreza (2002 on) inc. STI & WRX	£425.00

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE



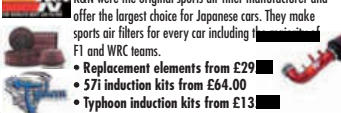
EIBACH produce the Worlds finest springs with quality second to none. Not only do they improve the looks of the car but they also offer better handling with improved ride quality. ABP offer the full range of EIBACH suspension products available including lowering spring kits, suspension kits, alignment products and wheel spacer kits. **PLEASE CALL**



Bilstein produce a massive range of shock absorbers and suspension kits for Japanese cars including 84 replacement dampers, B6 & B8 sports shock absorbers and fully adjustable coil over suspension kits. All Bilstein development work is carried out on the legendary Nurburgring.



ABP can supply and fit the full range of HKS tuning products from Japan. HKS offer some of the finest quality tuning parts available in the World. Products available include sports air filter kits, sequential dump valve kits, iridium spark plugs, exhaust systems, intercoolers, boost controllers, suspension, cams, electronics and more. **PLEASE CALL**



K&N were the original sports air filter manufacturer and offer the largest choice for Japanese cars. They make sports air filters for every car including 1000cc, 1600cc, 2000cc, 2400cc, 3000cc, 3500cc, 4000cc, 4500cc, 5000cc, 5500cc, 6000cc, 6500cc, 7000cc, 7500cc, 8000cc, 8500cc, 9000cc, 9500cc, 10000cc, 10500cc, 11000cc, 11500cc, 12000cc, 12500cc, 13000cc, 13500cc, 14000cc, 14500cc, 15000cc, 15500cc, 16000cc, 16500cc, 17000cc, 17500cc, 18000cc, 18500cc, 19000cc, 19500cc, 20000cc, 20500cc, 21000cc, 21500cc, 22000cc, 22500cc, 23000cc, 23500cc, 24000cc, 24500cc, 25000cc, 25500cc, 26000cc, 26500cc, 27000cc, 27500cc, 28000cc, 28500cc, 29000cc, 29500cc, 30000cc, 30500cc, 31000cc, 31500cc, 32000cc, 32500cc, 33000cc, 33500cc, 34000cc, 34500cc, 35000cc, 35500cc, 36000cc, 36500cc, 37000cc, 37500cc, 38000cc, 38500cc, 39000cc, 39500cc, 40000cc, 40500cc, 41000cc, 41500cc, 42000cc, 42500cc, 43000cc, 43500cc, 44000cc, 44500cc, 45000cc, 45500cc, 46000cc, 46500cc, 47000cc, 47500cc, 48000cc, 48500cc, 49000cc, 49500cc, 50000cc, 50500cc, 51000cc, 51500cc, 52000cc, 52500cc, 53000cc, 53500cc, 54000cc, 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THIS IS CURRENTLY THE FASTEST EG HONDA CIVIC IN EUROPE, AND ALSO THE FASTEST B-SERIES CAR IN EUROPE. OWNER AND DRIVER KIEL PRIESTMAN PROVES THAT IF YOU WANT TO BE THE BEST, AND IF YOU WANT TO BEAT THE REST, DEDICATION'S WHAT YOU NEED

WORDS: DANIEL GOODYER PICS: MATT WOODS,

When it comes to drag racing, the Honda Civic is a fairly unlikely candidate. For a start it's front-wheel drive and, if we're being honest, a little hatchback isn't what you think of when you picture two cars racing up the quarter mile. Traditionally, you think of big Yank tanks. Huge cars with lots of chrome and big V8 engines, usually with a ridiculously large supercharger intake sticking out of the bonnet. At least that's how things used to be.

These days the kids are taking over. Technology has moved on and it's allowed guys like Kiel to build cars that can embarrass pretty much every supercar on the planet. Kiel's 1995 Honda Civic accelerates aggressively, with huge levels of grip and power. To put its pace into perspective, it takes a Caterham 7 Superlight 400 nine seconds to accelerate from 0-100mph, the same time it takes both the Porsche 996 GT2 and a Noble M12 GTO 3R. In that same amount of time, Kiel's Honda Civic can do 0-160mph!

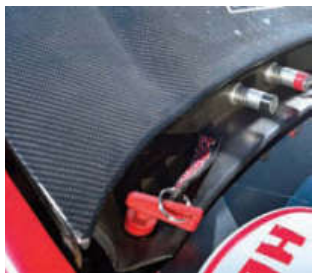
That's insane. Even when you consider that Kiel's car is fully stripped out and on slick tyres, that's a massive difference. All three of those are seriously fast cars and Kiel's Civic started out as a humble 1.5 shopping car. So how is it even possible? Well, we've already featured Kiel in *Japanese Performance* twice before. He was our drag racing expert in our Tips from the Pros feature and, before that, we

featured this very car on the cover of our September 2011 issue. Now it's on a whole different level.

Back then, his story centred on a group of young mates going out and having fun. A day at York Raceway turned into a youth well spent at Santa Pod, helping each other go faster and faster. When Kiel's Jordan Civic was crashed into, he bought this EG Civic LSi from a friend for just £800. Kiel replaced the asthmatic 1.5-litre engine with a B16A2 from a Civic VTi. That was then equipped with a Jackson Racing supercharger, which was eventually replaced by a T3/4 turbo. Back then the game was to break into the twelves. As we say, things have moved on since then.

These days you'll find Kiel racing in the FWD Drag Series, a five-round competition held at Santa Pod during the big shows and meets throughout the year, with the final round at Japshow Finale on 11th October. The Fast Show, Big Bang and Ultimate Street Car have all played host to rounds this year. However, the engine bay of Kiel's Civic no longer hosts that turbocharged B16A2 engine. Something new is under the bonnet...

'It's a full race engine built in America by Skunk2 Racing,' explains Kiel, 'We're the only team to have full Skunk2 sponsorship, thanks to Teigiwa Imports. The engine arrived fully-built and is based on a US-spec B18C with completely uprated internals. The whole build was taken care of by Skunk2. We had a few discussions and then





THE DRAG CIVIC WEIGHS JUST 930 KILOS, INCLUDING A 72KG DRIVER AND FUEL!



ENFORCED CHANGES

THERE'S NO CHANCE OF KIEL MISSING A GEAR IN HIS H-PATTERN GEARBOX. THAT'S BECAUSE HE'S FITTED A SPEED FACTORY SHIFTER THAT FEATURES A UNIQUE DESIGN. IT HAS HIGH-PRESSURE SPRINGS THAT FORCE THE GEAR LEVER INTO THE RIGHT HOLE. SO PULLING BACK FROM FIRST GEAR FINDS SECOND ACCURATELY, THEN JUST PUSHING FORWARD ON THE LEVER FINDS THIRD, THE SHIFTER PUSHES THE GEAR-LEVER ACROSS INTO THE RIGHT SLOT. IT'S A CLEVER IDEA THAT HAS POTENTIALLY SAVED KIEL A BLOWN GEARBOX

they built up the engine using the knowledge they have gathered over there. We didn't really get a say in the spec, we just told them what we were trying to achieve and they sorted the rest. The engine is rated up to an incredible 1500bhp!

As you would expect, everything has been updated. There are some very trick parts including a set of billet rods and a 4Piston Racing head. These guys built the head for the four-cylinder Outlaw World Record

GRIP 'N' GO

GETTING THE RIGHT TYRES IS AN ESSENTIAL PART OF DRAG RACING, AND ONE THAT KIEL HAS BEEN EXPERIMENTING WITH. HE'S JUST MADE THE SWITCH FROM MICKEY THOMPSON TO M&H SLICKS, BOUGHT FROM FELLOW DRAG RACER JEFF LUDGATE AT TRACK STUFF, THE SAME PLACE HE BUYS HIS VP RACING Q16 FUEL. THEY'RE BIG, CHUNKY SLICKS, RUN AT LOW PRESSURE TO MAXIMISE THE CONTACT PATCH AT THE START LINE AND THEN RISE UP AT THE TOP END, TO INCREASE THE CAR'S TOP SPEED. THEY'RE WRAPPED AROUND SUPER LIGHTWEIGHT 10X13IN WELD RACING WHEELS, WITH A SET OF SKINNY 15S AT THE REAR TO REDUCE ROLLING RESISTANCE AND HELP CREATE THAT DISTINCTIVE NOSE-DIVE STANCE

Holder, a US Civic that runs 7.92 at 201mph! So is that kind of time on the cards for Kiel?

It's certainly possible. Our American cousins have a big advantage over us when it comes to drag racing. Over there it's big business, and the tracks are immaculately prepared before any big event. Santa Pod is arguably the premier drag racing strip in the UK and facilities there are excellent and always improving, but we'll likely always be one step behind. Even on competition days, Kiel often has to share the track with the legions of 'Run What Ya Brung' racers – which is great for spectators who want to have a drive, but less than ideal in terms of grip, as street cars often lift the softer slick rubber off the track.

Even so, Kiel's times have been impressive. The FWD Drag Series is run in a heads-up knockout format, the first car past the post wins and goes on to the next round, the loser goes home. Kiel won Round 3 this year and won the

championship a couple of years ago, scoring himself a lovely pair of Stand 21 boots. These days, however, he is focusing on ETs (Elapsed Time) and Terminal Speeds (how fast he's going across the finish line).

'I want to be in the eights,' he says, 'then we'll go from there. We are slowly increasing the power of the engine at each event. We can't really use a dyno because it just spins the wheels up. So instead I log each run and then create a hot spot on my phone, and send the file back to Jamie Lumley at Evotune. He then trims the tables on the Syvecs S6 ECU and sends it back to us.' You can see how modern technology is helping Kiel do things that we could only dream about a few years ago.

The power is being controlled by the turbo boost level. The Precision 7285 turbo is not exactly shy right now, putting out around 2.4 bar (35psi) on VP Racing Q16 fuel for an estimated 900bhp! However, Kiel is working towards running another bar on

LOADING UP

KIEL'S CIVIC IS EQUIPPED WITH A SET OF YELLOW SPEED RACING SPECIAL ORDER DRAG COILOVERS. TEGIWA IMPORTS ARE THE OFFICIAL DISTRIBUTORS, AND ONCE AGAIN JEFF GIOVINO HAS HELPED WITH THE SETTINGS. SKUNK2 CAMBER ADJUSTERS AND LOWER CONTROL ARMS ALLOW KIEL TO FINE-TUNE THE GEOMETRY, AND BOTH THE FUEL TANK AND CHARGE COOLER RESERVOIR HAVE BEEN POSITIONED OVER THE FRONT WHEELS TO MAXIMISE TRACTION. KIEL RECKONS HIS CAR NOW HAS A 70/30 WEIGHT DISTRIBUTION AS A RESULT. THE BASIC IDEA BEING TO HAVE THE REAR-END HIGHER AND STIFFER THAN THE FRONT, SO ALL THE WEIGHT IS PUSHING THE FRONT WHEELS INTO THE TRACK

top of that, a whopping 50psi or so when the engine is fully sorted! That should generate well over 1000bhp and, provided he can put the power down, some incredible ETs and terminal speeds. Insane!

We touched on the impact Tegiwa Imports have had on the car, and Kiel admits that without their help, his car wouldn't be anything like the spec it is now. He explains: 'The Tegiwa Imports guys contacted me years ago about sponsoring the Integra I had at the time. They



sorted me out a deal on a set of wheels and I put their stickers on the car. They're the ones who wanted me to enter the FWD Drag Series, and they sorted out the deal with Skunk2 Racing because they're European Skunk2 distributors.'

The thing is, this time around, the involvement of Tegiwa Imports has gone much further than simply swapping wheels for stickers. Kiel adds: 'So many times they have sorted out parts when I couldn't find or afford them and a day or two later the right bit would be delivered to my door. The Tegiwa guys come to all our races, too. They camped with us before Japfest, paid for the rollcage, got the car wrapped. They're giving me real support, they're a proper sponsor and I'm very grateful.'

There's another name we need to mention, too. All the way across the pond in the USA, Jeff Giovino is a man who has forgotten more about Civics and drag racing than most of us will ever know. He's worked on Skunk2 cars in the States and has helped Kiel with all sorts of

technical issues, including advising on the suspension settings. Getting a car off the line is a critical part of drag racing and is something that is even more tricky when the powered wheels are at the front, and Jeff has helped with setting up the YellowSpeed coilovers and geometry, along with other key components including choosing the right turbo.

The blower in question is huge. The front tyres are huge. In fact, anything that either makes power or has to transfer power to the ground is massively uprated. The fuel system has been down the gym, with high pressure pumps and massive 2200cc injectors. There are lots of nice details throughout the build, and not just aftermarket bits either. For example, the ignition system had been adapted to a coil-on-plug setup pinched from an Audi, while an S2000 has given up its clutch master cylinder in the pursuit of chasing the horizon.

Considering the catalogue of parts on this car, you might be surprised by the parts it doesn't





have. Gone is the VTEC system, so one cam profile is locked in place. On a street car, VTEC is a clever way to help the engine switch from frugal to exciting in an instant, but Kiel doesn't need an economy mode. His engine is always flat-out. At this power level and with the turbo attached forcing air into the engine

anyway, it's an unnecessary complication, extra weight and something else that could go wrong.

Kiel has also converted his five-speed S9B gearbox into a four-speed. Why? Quite simply because it's made his gearbox stronger. He explains: 'The gearbox is one of the most

modified bits of the car actually, and the whole drivetrain is really important. We've removed fifth gear and welded a brace in its place, this stops the gears from literally ripping apart. With the combination of slicks and torque, the 'box takes a hammering. We've already cracked two cases, so if this one doesn't hold

up then we're going to have to look at a billet gearbox case.'

He adds: 'The S9B 'box is the one you'll find in a VTi-S, or an MB6 if you want to talk chassis codes. It's perfect for us because it has longer gearing than most Civic 'boxes, so we can reach a good speed in fourth and it suits the torque of the turbocharged





ENGINE

B18C Skunk2 Racing engine featuring Arias outlaw pistons, BME billet aluminium con-rods, 4Piston Racing cylinder head, Skunk2 Racing valvetrain, L19 head studs, Golden Eagle cam gears with T1 sensor, Moroso baffled sump, Syvecs S6 ECU mapped by Jamie Lumley at Evotune, Precision 7285 turbo, Speedfactory outlaw exhaust manifold, TiAL 60mm wastegate, HSP 4in bonnet-exit exhaust, HSP custom screamer pipe, HSP custom 1500whp chargecooler, HSP 90mm intercooler pipes, Vibrant Performance vanjen clamps, HSP racing cam cover with breather setup with two tanks, VTEC locked out and solenoid removed, Skunk2 Racing 5.5l intake manifold, Skunk2 Racing 90mm throttle bodies, Skunk2 Racing billet oil cap, Fluidampr crank pulley from Tegiva Imports, Motul 300v engine oil, Hasport billet engine mounts, HSP Racing custom fuel and water tanks in front bumper, T1 cam trigger sensor, Audi coil on plugs, NGK spark plugs, Synapse fuel pressure and oil pressure sensors, Grams 2200cc fuel injectors, Magnafuel pump 2000hp+, Magnafuel fuel pressure regulator, Magnafuel filters, Skunk2 composite fuel rail, HEL Performance fuel lines, VP Racing Q16 race fuel

TRANSMISSION

4-speed modified S9B gearbox, PPG gear set, Speedfactory shifter, RPC custom clutch, ARP flywheel bolts, Quaife ATB LSD, DSS 5.9 driveshafts and uprated intermediate shaft, HEL Performance clutch line, Motul gearbox oil

SUSPENSION

Yellow Speed drag spec coilovers, Skunk2 Racing camber adjusters, Skunk2 Racing lower control arms, Powerflex black series polybushes

BRAKES

Wilwood lightweight drag brakes, Wilwood hydraulic handbrake, Wilwood master cylinder and IPG Parts bracket, HEL Performance braided hoses, S2000 clutch master cylinder

WHEELS & TYRES

10x13in Weld Racing front wheels with ARP hardware wrapped in 24.5/9/13 M&H slick tyres, one-piece narrow 15in rear wheels wrapped in 24/3.6/15 M&H tyres

INTERIOR

SW Motorsport 8.5-second certified rollcage, Cobra Imola bucket seat, Takata 6-point SFI harness, OMP steering wheel mounted on NRG snap-off boss, Depo coolant and oil gauges, Wilwood hydraulic handbrake, T1 Race Development G-Force long shifter

EXTERIOR

Honda Spec P custom 3-piece front end, Honda Spec P custom drag spoiler, Honda Spec P custom flat floor, Tegiva carbon bonnet, Tegiva carbon boot, Tegiva carbon sunroof bung, Vibrant Performance velocity stack to turbo, Tegiva push latches on rear bumper, Stroud parachute, Skunk2 livery wrap

THANKS

Tegiva Imports, Skunk2 Racing, Jamie Lumley at Evotune, Jeff Giovino, Jeff Ludgate at Track Stuff, Jason Lavender at Motul Oil, Powerflex, HEL Performance, IPG Parts, Hasport, YellowSpeed Racing, RPC, PPG, ZX1, GT85, all the Honda Spec P guys

engine. It comes with an LSD from the factory, too, but I've since swapped that out.'

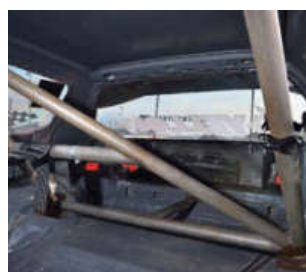
Surely there's an aggressive plate-type diff in there to help with traction off the line? Kiel answers: 'I actually use a Quaife ATB differential that I used to have fitted to it on the road years ago, which is a Torsen type of limited slip diff. I find this is better for launching purely because it's a bit softer than a plate-type. It still gets off the line great and is much safer than a plate-type. Again, it's the combination of grip and power that breaks things, and I don't want to be driving the car on a plate diff and break a driveshaft, as that could send me screaming towards the wall, I don't fancy that at over 160mph!'

The Quaife is clearly up to the job. The first run Kiel completed in his rebuilt car was a 9.5 at 147mph, 'I phoned Jamie at Evotune and he just started laughing, it was even faster than we expected.' Since then he's done a 9.0 at 157, a 9.0 at 162 and a 9.0 at 166mph! The eights are so damn close, he can almost taste them.

**CAGED ANIMAL
ROLLCAGES IN DRAG RACING ARE
CERTIFIED TO SPECIFIC ETS. THE
CHROMOLY CAGE IN KIEL'S CAR
WAS FABRICATED BY SHAUN
WOODS AT SW MOTORSPORT, AND
IS RATED TO A MINIMUM TIME OF
8.5 SECONDS. IF KIEL GOES FASTER
THAN THIS, HELL NEED A NEW
'CAGE. THE IDEA BEING THAT THE
FASTER YOU GO, THE FORCES
INVOLVED IN A SMASH ARE
GREATER, THEREFORE YOU NEED
MORE PROTECTION**

That will come, though, as the power increases the ETs will go down and the terminal speeds will go up. With a headline of 1500bhp on the engine and lots of set-up to still nail down, who knows just how low Kiel will go?

He's already come a long way in a short time, turning his Civic from a road car to a track car and then a drag racer. Kiel has been lucky to meet some very important people along the way, but then you make your own luck in this world. If he wasn't out there pushing boundaries on a budget all those years ago, he wouldn't be here now with a Skunk2 Racing works engine and Tegiva Imports backing. With everything now in place, we wouldn't bet against him dominating the record books for years to come. **JP**



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WORDS: DAN GOODYER PICS: MATT WOODS

THE JOY OF SIX

A TWIN-TURBO SIX-CYLINDER ENGINE TRANSPLANT IS AT THE HEART OF THIS MUTANT SUBARU IMPREZA, BUT IT HASN'T JUST BEEN THROWN IN THERE...



Engine transplants can make or break a car. Choose wisely and the results can be astounding, giving power where there wasn't any before. Choose badly and you'll end up with an unbalanced, unreliable car that no-one will love. This is something that MB Developments' boss Matt Baker knows only too well.

Under the bonnet of his eye-

catching Subaru Impreza is a 3.3-litre flat-six engine originally fitted to a Subaru SVX. Hanging off each side is a large GT30 turbocharger. Or more accurately, hanging underneath both sides is a GT30 turbo. You see, Matt has put this car together with care, attention and a definite plan. This car isn't just here because it's got a big engine. It's here because the details are as impressive as

the power it makes and the sheer noise it generates!

Cars don't always sound like they look, but this one does. It's loud, anti-social and in-your-face. The styling will definitely divide opinion. Some will love the outlandish individuality of it, others will call it ugly. Purists will have already turned the page. It's beautiful and ugly all at once, one of those cars that looks like nothing else because it's 100%

'WE'VE HAD TO CAP THE TORQUE TO STOP IT BREAKING THINGS'



driven by function.

We love the fact the front-end is trying to suck the entire universe through that massive front opening. The same is true at the back, where the rear axle and suspension is completely on show like a sexy mechanical upskirt shot. It stops you in your tracks and makes your jaw drop before firing off into the distance faster than you thought possible.

'We started with a part-built Time Attack car,' explains Matt. 'The idea was to save us some time, instead it probably set us back about four months!' The 'shell had been prepared by another company for competition, and while the

outside of the car looks similar to how it did then, pretty much everything has been re-done. Matt adds: 'We re-did the seam welding, had to remove loads of the body panels and re-do those. It became a bit of a joke, really. It looked much better in the sale ad photos than it did when we got it back to the workshop, but it was a lesson learned and we just got on with it.'

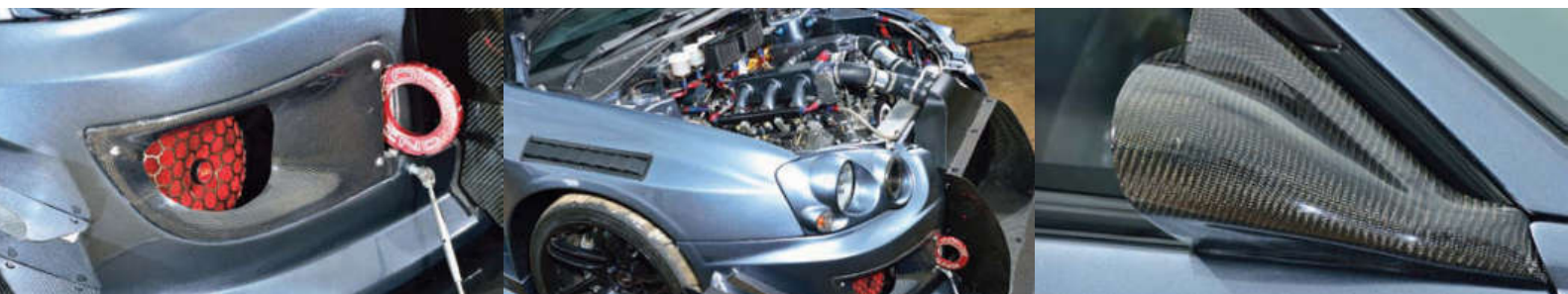
When Matt talks about 'we', he's describing his MB Developments team: Jonno, Yam and Jordan. The MB-Team, if you will. If no-one else can help, and if you can find them, maybe you should hire the MB-Team to build you a kick-ass Impreza like this!

'They've been great,' says Matt. 'We're Subaru breaker's that also build performance-tuned or competition cars like this one. We've got four customers this year competing in various competitions with cars we've built. My team don't strictly need to stay late but they regularly have done. We've been here until two or three in the morning getting jobs done.'

Looking over the car, it seems that time has been well spent. It's a brutal car in every sense. Starting with that monster engine conversion from a 2.0-litre flat-four to the big 3.3-litre flat-six. The bigger lump packs one hell of a punch, and we'll go through

the internals in more detail in a bit 'cos it's a bit special. The engine is controlled by a Syvecs S6 ECU mapped by Martin Battye of MB Automotive, and the mapping is still a work in progress. However, at just 0.9bar it's already putting out a hefty 707bhp and the torque has already been capped at 670lb ft, something that only requires 0.6bar of boost, in case you were wondering.

Matt admits: 'We've had to cap the torque to stop it from breaking things. We've done some very limited testing so far, some in private and some in public. We've done a couple of MLR sprints and the Jolly Green





Monster charity day, but we haven't really pushed the car properly yet.' Even so, a decent launch at the drag strip almost twisted the rear differential out of the car. That's despite a meaty T45 chromoly cradle – the diff mount was just chewed up! Matt also managed to detonate a standard gearbox, despite other

ULTIMATE CONTROL
ONE OF THE MORE INTERESTING ASPECTS OF THE S6 SYVECS ECU IS THE CONVERSION TO TWO DRIVE-BY-WIRE THROTTLE BODIES. THESE HAVE REPLACED A SINGLE CABLE-OPERATED THROTTLE BODY AND ALLOW SUPERIOR CONTROL. THE RESULT IS NOT ONLY MORE POWER, BUT ALSO MORE BALANCE AND GREATER REFINEMENT. IN SHORT, IT HELPS THE ENGINE RUN SMOOTHER

Impreza owners running them with 600bhp 2.0-litre engines with no problems. Matt adds: 'It's the combination of big torque and 285-section tyres that does the damage.'

But this car isn't just about power. As we said at the beginning, there's a lot more going on here than meets the eye. If there's one thing that distinguishes the Subaru Impreza from a Mitsubishi Lancer Evo, it's how the Impreza is laid out. While the Evo is essentially a saloon car with a very tuneable engine and a lot of electronics to help it out, the Impreza's weapon is its mechanical balance. It's one of the features that helped it

become a World Rally Championship icon. Flip one over, draw an imaginary line down the middle and everything is mirrored. It's purposely designed so the weight is distributed as evenly as possible.

Of course that was one of the main reasons Subaru went with a boxer engine in the first place. While the Evo has a transverse engine that tucks the weight up close to the bulkhead, there is effectively more engine on one side of the car than the other. By comparison, the boxer engine can be mounted low down in the car and the weight distributed evenly between the driver and passenger sides of the car. It's

this mechanical balance that Matt has worked very hard to maintain.

Take the EG33 six-cylinder engine, for example. It's six inches longer than the original EJ20. So the MB Developments guys have pushed the gearbox back three inches. With the new engine in place, there's now an extra three inches either side of the original engine location, so it has minimal effect on the handling balance.

It's a similar story with the pair of meaty GT30 turbos. If you've ever held a GT30, you'll know they're not something you can easily throw around. They're heavy metal snails. So a set of





THANKS

ALL MY LADS WHO WORK FOR ME HERE AT MB DEVELOPMENTS (JONNO, YAM AND JORDAN), MARTIN BATTYE AT MB AUTOMOTIVE, DEAN AT RACEWORK DEVELOPMENTS, SIMON AT CHEVRON MOTORSPORTS, GRAEME AT WHITELINE, STEVE AND PAUL FINCH AT FINCH MOTORSPORTS, ALYN AT AS PERFORMANCE, STEVE AT SW MOTORSPORTS, ADAM AT SEV'S, EWAN CLARK MOTORSPORT

COMPLETELY FLOORED

MB DEVELOPMENTS EQUIPPED THE UNDERSIDE OF THE IMPREZA WITH A FLAT-FLOOR TO HELP STICK THE CAR TO THE TARMAC. HOWEVER, IT WAS SO WELL SEALED THAT IT KEPT ALL THE HOT AIR IN THE ENGINE BAY. SO THE GUYS CREATED A STEP IN THE FLOOR AND HAVE RAISED THE REAR EDGE OF THE BONNET. THE RESULT IS A COOLER INLET CHARGE AND A HAPPIER ENGINE. WITH AN ENGINE AS LARGE AND POWERFUL AS THIS ONE, COOLING IS EXTREMELY IMPORTANT AND IS AN ONGOING DEVELOPMENT

custom manifolds has been fabricated by Dean at Racework Developments, so the turbos now sit lower than the chassis rails! It's these details that make this car special, and when it's all completed and mapped to full power, is going to make it extremely hard to beat.

'The plan is for the car to multi-task. I want to be able to jump in it and go drag racing in it or enter Time Attack, a sprint or just go for a drive on the road. So it has to be road-legal, too. It's a big ask, to be honest, as you're usually compromising something when you build a car for all tasks, but we'll see. That's why the rollcage is certified for 8.5-second quarters. I've definitely got one eye on the Pro class of Time Attack for next year, too, but I need to find out if the engine swap is going to be an issue.'

We keep returning to the engine, but it is a fundamental piece of the performance jigsaw. Getting it in was anything but

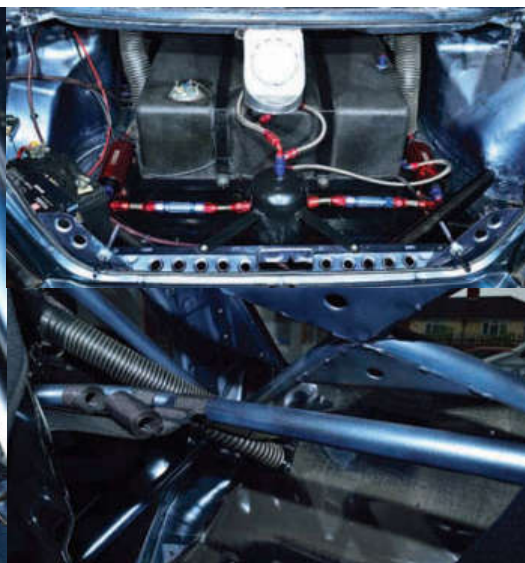
straightforward. It required a special one-piece propshaft and the front subframe had to be adapted, as did the sump pan. Matt admits it was a lot of work but the result is already totally worth it, even before the real power of the engine has been revealed. On full boost this should be making over 1000bhp!

It's not a standard engine, of course, far from it. Matt adds: 'People only talk about the good points of the H6 engine but it does have its flaws. Paul and Steve Finch at Finch Motorsports have been a big help with finding out what those problems are. Paul has been there for advice and his brother Steve has helped us sort the timing out. I've got

nothing but good things to say about them.'

Matt continues: 'The same goes for Martin at MB Automotive. Yeah, he does the mapping, but he's also helped out with wiring issues and loads of other technical bits. He's such a knowledgeable guy.' As for the engine internals, they're a tech-head's wet dream. Have a look at the tech spec for more details but, as you'd expect, it's pretty much all custom work.

The engine has been stroked from 3.3 to 3.6-litres using MB Developments' own crankshaft. The same crank used by Andy Forrest no less, the delightfully insane Scotsman who is currently winging his way to the





MB DEVELOPMENTS

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FOUR-DOOR TO TWO-PHWOAR THE BODYSHELL WAS ORIGINALLY A FOUR-DOOR BUT IT'S BEEN CONVERTED WITH AN ARP BODYKIT THAT HAS SINCE BEEN COMPLETELY RE-DONE BY MB DEVELOPMENTS. BEHIND THE THIN SKIN PANELS, MOST OF THE ORIGINAL SKELETON HAS BEEN CUT AWAY. WITH THE SPACEFRAMED FRONT-END AND TUBULAR REAR SUBFRAME, THE CAR IS EXTREMELY LIGHT

World Time Attack Challenge as we go to print. Matt also had custom con-rods made in Argentina, to allow him to rev the engine hard. In reciprocation, the top-end of Matt's engine is all AF Performance, including some trick camshafts and valves.

As we said before, this thing has ripped up factory gearboxes already, so Matt has now fitted a Samsonas sequential gearbox.

We should mention the whole front-end has been space-framed, too. This basically involved cutting out bits of the original bodyshell including the inner wings and welding a frame of metal rods in their place. This reduces weight and it also creates more space, making it easier to work on the engine when the need arises.

This is a very special Impreza and about as extreme as road cars get. Incredibly, this is somehow still road legal! The length of the spec speaks for itself. However, Matt is far from finished. He adds: 'We're just about to start stripping the car for the next batch of mods. I want to put the radiator in the boot because it will create more space up front and also

move more weight to the rear of the car. That means I'm going to have to replace the existing fuel cell to make room for it.'

Then there's the airshifter mod he wants to perform on the sequential gearbox and the million other things still to come. The truth is this isn't a feature about the finished article, but when we saw this beast in action we couldn't wait to share it with you. If you're out and about at the various shows in 2016, or at the drag strip or even the race circuit, you might get to witness it in action. If you do, look closer at the guy behind the wheel, because that H6 engine at full power is guaranteed to make Matt grin from ear-to-ear. That's the joy of six! **JP**

ENGINE

3.3-litre, 6-cyl, 24v EG33 H6 stroker engine, 2x Owen Developments GT30 turbos, S6 Syvecs ECU, custom stroker crank, M300 stroker con-rods, Mahle forged pistons, ACL Race bearings, Racework Developments under-slung turbo exhaust manifolds, 2x external wastegates, HKS 100mm air filters, Racework Developments 3in side-exit exhaust, Dailey Engineering dry sump setup, Peterson dry sump tank, braided oil lines and fittings, AS Performance head studs and closed deck insert, Autosprint race-spec heads, AF Performance double valve springs with Supertech titanium seats and retainers, inlet and exhaust valves and valve stem seals, AF Performance custom '1000bhp+' billet race camshafts, CDF Racing titanium cam pulleys, Davies electronic water pump, Cometic head gaskets, Racework Developments twin DBW inlet manifolds, conversion to drive-by-wire throttle bodies, CDF Racing fuel rails, 1600cc Asnu injectors, Aeromotive fuel pressure regulator, 2x Aeromotive fuel pumps, Aeromotive in-tank lift pump, custom swirl pot, FIA spec fuel cell, Racework Developments alloy header tank and radiator with Spal fans, Racework Developments front-mounted intercooler, 4x Setrab coolers, ATI Super Fluid Dampener underdrive crank pulley, Syvecs S8 ECU, modified JT Innovations lightweight engine wiring harness, Toucan display, Vibratronics engine mounts

TRANSMISSION

Samsonas sequential gearbox, triple plate clutch and flywheel, Suretrac front diff, DCCD centre diff, Cusco 1.5-way rear diff, Perrin rear diff cover plate, solid rear diff mount and T45 cradle, custom gearbox mount, The Driveshaft Shop carbon propshaft and rear drive shafts

BRAKES

Alcon 6-pot calipers with 356mm discs (front), Alcon 4-pot calipers with 343mm discs (rear), Performance Friction brake pads, MB Developments pedal box with bias adjustment, hydraulic handbrake

SUSPENSION

KW Clubsport coilovers, modified rear trailing arms, Whiteline C Max top mounts, rear lateral arms and bushes, black series race bushes, front and rear anti-roll bars, billet alloy rear rollbar mounts, rose-jointed front and rear drop links and roll centre correction track rod ends, Cusco lower H brace, Chevron Motorsports modified bush set, lower front arms and bump steer correction lower ball joints, MB Developments/Sev's tubular rear subframe and space-framed front-end,

WHEELS & TYRES

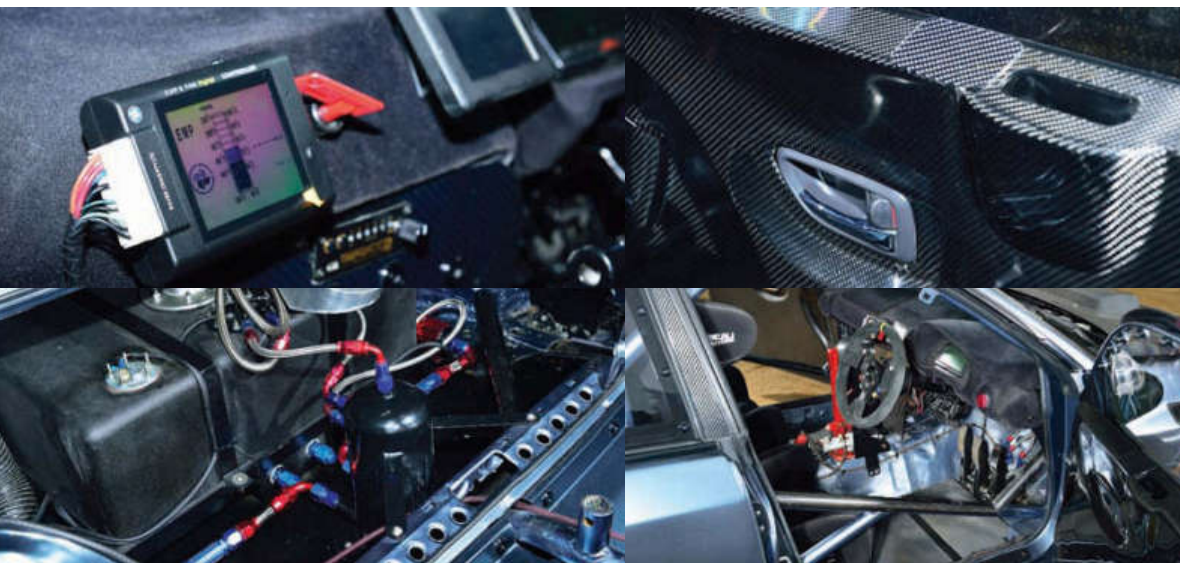
10.5x18in ET20 Cosmis MR11 wheels, APR extended wheel studs, CDF Racing titanium wheel nuts, 285/35/18 Toyo R888 GG semi-slicks tyres (street), 285/35/18 Pirelli Cup Super Soft slick tyres (track)

INTERIOR

MB Developments/Sev's custom rollcage, Corbeau bucket seats, TRS harnesses, Sparco steering wheel, Cartek steering wheel control unit, Race Dash 2 digital display, Prodrive WRC carbon door cards, Sportsman drag series window net, carbon centre console and rear firewall, Moroso switch panel, Toucan display unit, battery relocated to boot, smoothed and flocked dashboard

EXTERIOR

'05 UK STi bodyshell converted to 2-door, stripped, lightened and seam welded, APR glassfibre wide-arch kit, MB Developments front bumper with large intercooler scoop and carbon splitter, carbon bumper canards, Morette twin headlight conversion with cooling ducts, WRC wing mirrors, Lexan windows, Seibon vented carbon bonnet, AMS carbon roof, carbon B-pillar trims, scoops in rear windows supplying cold air to rear brakes and fuel pump, carbon rear upper spoiler, carbon duck-tail spoiler with vent for boot ventilation, MB Developments/Sev's custom alloy rear diffuser, chassis-mounted MB developments 1700mm adjustable carbon rear wing, 12ft parachute, resprayed in RB5 Crystal Grey





Cusco Japan are one of the premier tuners in the World. They have extensive experience in GT, Formula, and World Rally Races. They design not only suspension and chassis components, but engine tuning, headers, and more. They offer parts such as adjustable cam gears, spoilers, intake systems, chassis under reinforcements, limited slip differentials and turbo intercooler piping.

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LIQUID GOLD

WORDS: OPIE OILS

ENGINE OIL IS THE LIFEBLOOD OF YOUR MOTOR, AND NOT ONLY AFFECTS YOUR CAR'S PERFORMANCE, BUT IT CAN ALSO HAVE A MASSIVE EFFECT ON ITS RELIABILITY AND, ULTIMATELY, YOUR WALLET. JP SPEAKS TO LUBRICATION EXPERTS OPIE OILS TO FIND OUT HOW...

The chances are, if you're reading this, your car is worth a fortune to you (in both time and money) and it's our guess that you want to look after it as best you can. One of the easiest ways to do that is by not only using the right oil, but by ensuring that vital fluid is kept at the correct levels and in tip top condition, too. After all, many expensive engine failures can be traced back to owners either not maintaining the correct oil levels in their cars, leading to oil starvation, or by using a grade of oil that is simply not up to the job, a factor which is of extra importance with tuned engines.

Generally speaking, oil has three main functions in looking after your engine. The first and most obvious of the three is lubrication against wear. Oil performs this function by providing a barrier between the metallic surfaces inside your engine that allows each part to smoothly operate without generating heat and wear through metal-to-metal contact. The second function oil has is that it cleans your engine, too. Modern oils contain various detergents that actually clean the internal surfaces of your engine while in use. Thirdly, oil is also an effective coolant. It does this by transferring the heat away from the parts into the oil which then cools as it flows around the engine, reducing engine temperatures. So, now we know what oil does in our engines and the benefits it brings, how do we ensure we select the right one for the job?

HOW THICK?

When choosing an appropriate oil for your application, the first thing to consider (in most cases) is the viscosity. When cold, you want the oil to flow well, so it gets around the engine quickly, improving cold start protection. When hot, you don't want the oil to be too thick as the flow rate is reduced, lessening the protection and heat transfer capabilities of the oil. However, don't just think it's a case of the thinner the better, as too thin an oil will also lead to reduced surface-to-surface protection, so it's all about getting the right balance.

When you see the oil grade listed on the can, such as 5w-40, the first number relates to the cold flow viscosity (the w stands for Winter) and is measured at 40°C. The second number describes the viscosity at 100°C and, although that number will be higher than the first number, the oil will always be thinner at 100°C than 40°C (the numbers are on a different scale), due to

heat causing the oil to thin naturally. Those numbers are not exact points, but refer to a band that the viscosity falls into, so you could have a 5w-40 that is almost the same viscosity as a 10w-40 or 0w-40, which is something to bear in mind.

Generally, what the manufacturer recommends is a sensible grade for a standard car that is used on the road, but when you modify an engine or use it on track, the engine will run hotter than normal, leading to the oil thinning. That is when you need to consider using a thicker oil as, in theory, it should run at a similar viscosity to the standard oil in a standard car. Depending on how far the car is modified, moving to a grade or two thicker can be a sensible option.

Often grades like 10w-30, 10w-40 and 15w-40 are recommended as standard options, but you can improve on those (in most cases), but using something thinner when cold, such as a 5w-30 in place of 10w-30, or a 5w-40 instead of 10w-40 or 15w-40, as this will help with cold start protection. But there are times when sticking to slightly thicker grades when cold makes sense. Forged builds, for example, have larger tolerances than standard engines, so a thicker oil is likely to be the more sensible choice.

FULLY SYNTHETIC
TOP QUALITY SYNTHETIC OILS ARE MADE WITH ESTERS. THESE CLING TO METAL SURFACES, SO YOUR ENGINE PARTS ARE COATED WITH OIL AT ALL TIMES, MEANING INSTANT COLD START PROTECTION; THEY ALSO HAVE GREATER FRICTION REDUCTION PROPERTIES THAN NORMAL OILS, WHICH CAN HELP ENGINES RUN SMOOTHER





LUBE ME BABY!
THE INTERNALS OF YOUR ENGINE
RELY ON A GOOD SUPPLY OF
QUALITY OIL TO LUBRICATE THEM
AND STOP THE METALLIC
SURFACES RUBBING TOGETHER
CAUSING UNWANTED HEAT AND
EXCESS WEAR

Also, certain cars sound terrible when cold if too thin an oil is used, and in those cases, a thicker oil could help.

Another thing to consider with viscosity is what the car is getting used for. A daily drive that sees plenty of cold mornings needs cold start protection more than a car used for endurance racing. With endurance racing, you want a very stable oil that can cope with hours of abuse, that can mean sacrificing some cold flow to make the oil more stable. Unless your car has one specific purpose (track use, short road trips, long journeys etc.) you'll likely be looking at a compromise when it comes to choosing the best grade for it.

MINERAL, SEMI OR SYNTHETIC?

One of the most common ways of looking at oil is as mineral, semi-synthetic or synthetic, but it's not really that simple.

A mineral oil is oil that came out of the ground and has then been refined to make it suitable for use in vehicles. It's pretty basic stuff, but has the advantage of being cheap. A good example of mineral oils are the Fuchs Superma 15w-50, Valvoline VR1 20w-50, Millers Classic 20w-50 and Silkolene Silkolube 20w-50. Millers CRO is a popular one as it's specially designed to run in new/rebuilt engines.

A semi-synthetic is a blend of mineral oil and synthetic. It's cheaper than a synthetic and offers better protection than a mineral oil, but will not last as long or give as good protection as a synthetic. Fuchs Syn MC 10w-40, Castrol Magnatec 10w-40, Mobil Super 2000 10w-40, Valvoline VR1 10w-60, Millers Trident 10w-40, Shell HX7 10w-40 and Motul 4100 Turbolight 10w-40 are popular semi-synthetics.

Synthetic oil isn't quite as simple as you might think from the name, though, as there are basically three types of synthetic oils. The first is hydrocracked mineral oils. This is where a mineral oil goes through a process called hydrocracking, which modifies and refines the oil enough that it is classed as synthetic.

Hydrocracked oils are the synthetic component of a semi-synthetic oil. Secondly there is PAO, or polyalphaolefins. This is generally what people think of as synthetic oil, where the oil is produced by chemical reactions.

Lastly there are esters. Esters are the top level oil on the market and have advantages over normal oils in that they cling to metal surfaces, so the interior of your engine, gearbox or diff is coated with oil at all times, meaning instant cold start protection; they also have greater friction reduction properties than normal oils, which can help engines run smoother. Additionally, because esters make the oil more stable, ester-based oils are ideal for hard use applications. Fuchs Pro S and Pro R, Millers CFS and CFS Nanodrive, Red Line, Motul 300V and Motul Sport, and Gulf Competition are very good, ester based oils. Shell Helix Ultra, Millers XF Longlife, Fuchs GT1 and Supersyn, Mobil 1, Castrol Edge Titanium and Motul 8100 are good examples of 'normal' synthetics.

In automotive oils, the esters are blended with PAO and/or hydrocracked oils to produce the final product as it would work out far too expensive to just use esters on their own, and blending the esters with other oils reduces the cost and produces a more stable oil.

ADDITIVES

Oils tend to be pretty clearly labelled as to what grade they are and if they are mineral, semi-synthetic or synthetic, but the additive pack is far less obvious on the label. Additives in the oil are very important, as they let the oil do its job properly. Here are some of the additives used in a modern oil:

- 1) Detergents – These clean the engine to stop build ups that could lead to a lack of protection.
- 2) Anti-wear additives – These bond to the metal surfaces, providing a sacrificial layer. The





best known one is ZDDP.

3) Anti-foaming agents – These help to keep the oil as a liquid rather than let it build into a foam. Foaming oil causes problems with the oil pump and can lead to oil starvation.

There are several others, such as extreme pressure, anti-ageing, viscosity improvers, friction modifiers etc. but this article could become very long if we went through them all!

GETTING WHAT YOU PAY FOR

If anyone tries to tell you that simply 'oil is oil', that really isn't the case. You could have two cans of oil, both that are labelled as 5w-40 synthetics, but one could be a hydrocracked oil with a cheap/reduced additive package and the other could be a PAO/ester blend with a top quality additive pack. There can be a huge difference in price between those oils and the difference might not be clear unless you have an idea of what the information on the label means.

Manufacturer approvals can also affect the price. Often to get an oil approved by a manufacturer, it can cost tens of thousands of pounds (we've even heard of some approvals costing over £100k) and the cost of getting those has to be recouped by the oil. Some companies list their oils as 'meeting the requirements of' or 'can be used in place of' where certain manufacturer specifications are required, as that saves the cost of getting the approval, but you are relying on the oil company being honest about the oil doing what it says on the label.

Quality control also plays a large part in the price of an oil, as the more it's tested in production, the more it costs on the shelf. We've heard of cheap oil that was tested where it was supposed to be a 5w-40 but

turned out to be a 20w-40!

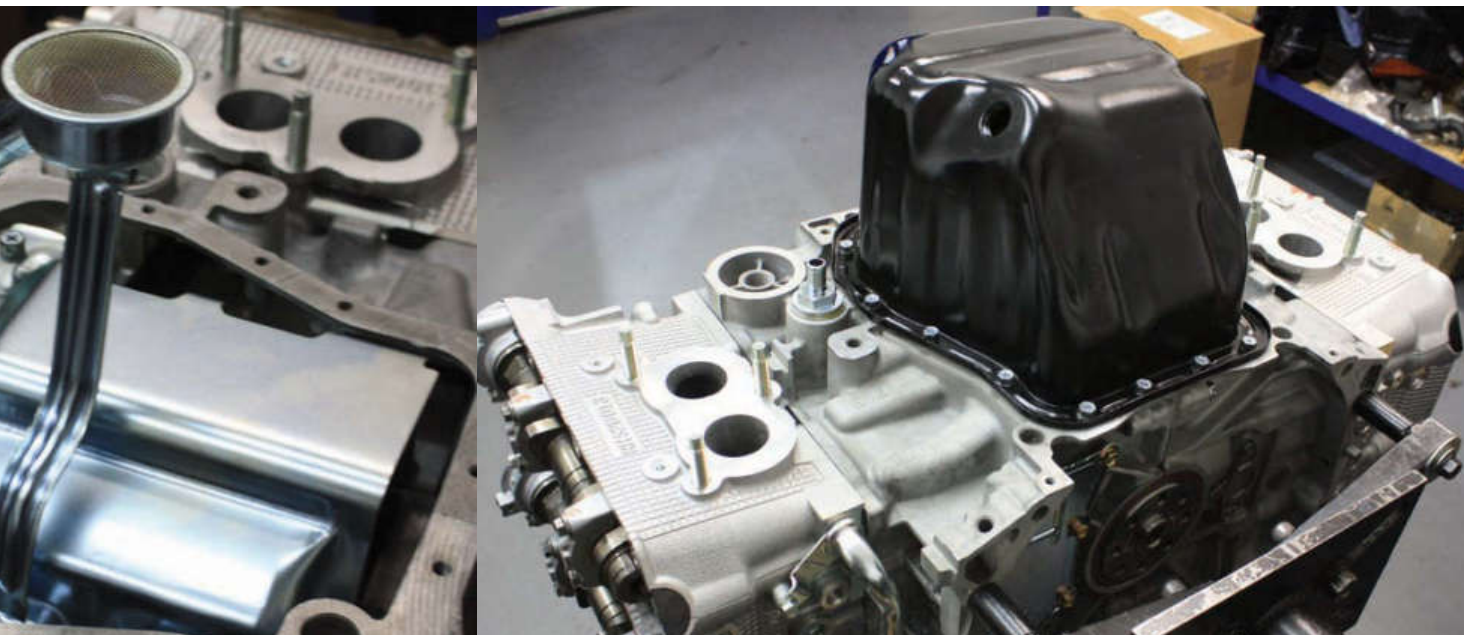
We're not saying you need to pay a fortune for your oil, but buying from reputable companies should provide you with added peace of mind that the oil will do the job you need it to.

OIL TEMPERATURE

A lot of people add an oil cooler as one of their first engine modifications, but this can sometimes be pointless, and in some cases it can actually be harmful. Ideally, you want the oil to be around 100°C, but at least 80°C when the engine is up to temp as otherwise some of the additives will not function properly and the oil will not flow as well

SEMI-SYNTHETIC
A SEMI-SYNTHETIC IS A BLEND OF MINERAL OIL AND SYNTHETIC OIL. IT'S GENERALLY CHEAPER THAN A SYNTHETIC AND OFFERS BETTER PROTECTION THAN A MINERAL OIL, BUT WILL NOT LAST AS LONG OR GIVE AS GOOD PROTECTION AS A SYNTHETIC





as it could. If you have an oil temperature gauge, you can monitor the oil temperature and get an idea if an oil cooler is actually needed. This is also a good idea as, ultimately, you don't want the oil to get too hot, either, as this will cause the oil to degrade or run too thin, reducing its protective properties.

OIL CONSUMPTION

Generally, oil consumption is not something to worry about, unless it's excessive. Certain engines, like Honda VTEC and Toyota VVTi motors often burn a drop of oil and suffer no ill effects; just keep an eye on the oil level and top up when necessary to keep it at the upper level.

Forged builds also tend to use oil due to the

larger tolerances than a standard engine.

Oil consumption does vary from car to car, but the best thing to do is ask a specialist if you think you are using too much (a litre per 1000 miles is regarded by most manufacturers as the 'normal' limit, in most cases). Oil consumption can often be reduced by using a thicker oil, but too thick, and engine protection is lost.

ROTARY ENGINES

It's often said that rotary engines must use mineral oils and, to an extent, that's true, as you need the oil to burn off as part of the combustion process, and synthetic oils can simply be too stable to burn off as required. It's not always the case, though. Heavily modified rotaries that are used on track are ideal for use with an ester synthetic. As semi-synthetic oils are made from 100% mineral oil (standard mineral oil with some hydrocracked oil) they are fine to use in normal, road-going rotaries. In fact, a fairly basic hydrocracked synthetic oil is fine for pretty

much any on-road rotary. We've heard instances of RX-8 owners that have run on hydrocracked oil for over seven years with no issues at all, but again, if in doubt, it's always worth consulting with a specialist, especially if your engine is modified.

ASK THE EXPERTS

So as you can see, not all oils are created equal, and getting the correct one can be a bit of a tricky business at times. That is why specialist companies such as Opie Oils are here to help. With years of experience and back-up from the oil manufacturers, they can provide guidance on what will be the best oil for your car. If you need any help with an oil recommendation, please email the guys at oilman@opieoils.co.uk or call on 01209 202944. 

MINERAL
A MINERAL OIL IS OIL THAT CAME
OUT OF THE GROUND AND HAS
THEN BEEN REFINED TO MAKE IT
SUITABLE FOR USE IN VEHICLES.
IT'S PRETTY BASIC STUFF, BUT HAS
THE ADVANTAGE OF BEING CHEAP





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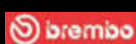
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HONDA S2000

JAPSTUFF

BRINGING YOU THE HOTTEST NEW PRODUCTS ON THE JAPANESE TUNING SCENE

Every month we bring you the latest and greatest products on the Japanese tuning scene. We always showcase a 'Red Hot' product at the front of the section and also highlight the 'must-have'

products at either end of the budgetary scale.

This way you can decide whether to save your pennies to afford the 'Big Spender' or simply splash a little spare

pocket change on the more affordable 'Chump Change' product. We hope you enjoy the section but, as usual, if there's anything you think we can do better, then please let us know. Until then...enjoy!

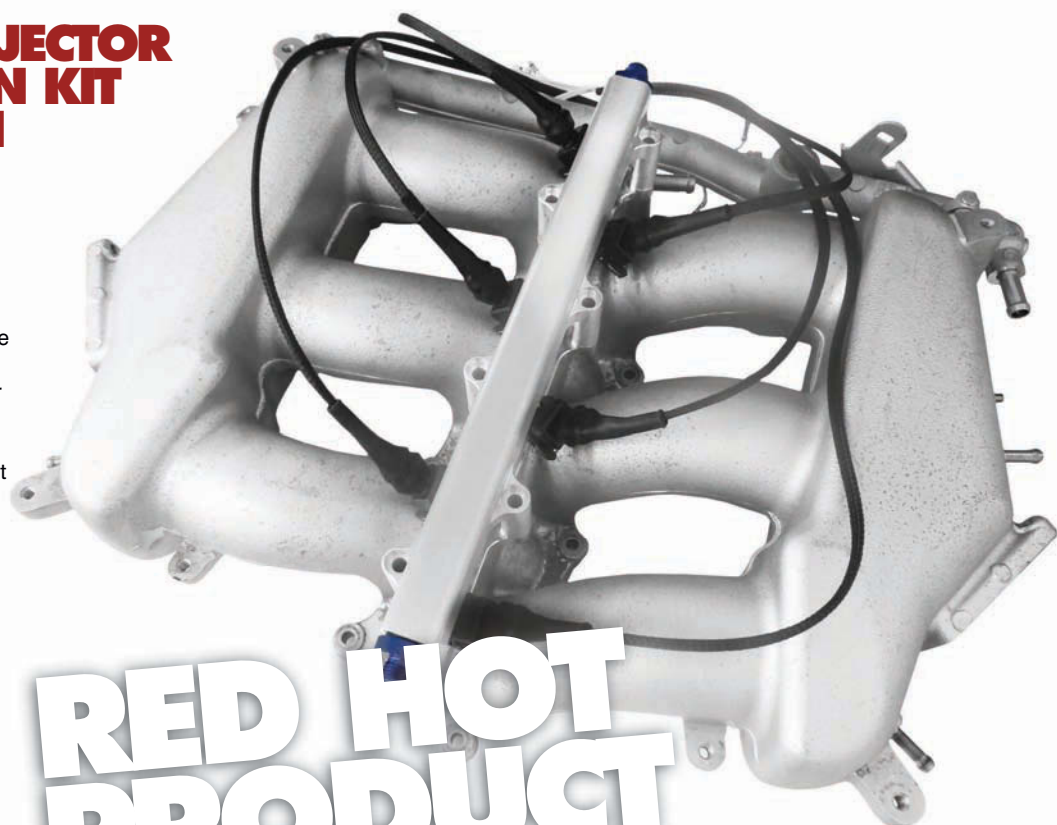
ASNU 12-INJECTOR CONVERSION KIT FOR NISSAN R35 GT-R

The Nissan R35 GT-R's stock intake manifold is capable of working without fault on cars producing up to 1400bhp, but many fuel injectors tend to give up well in advance of this limit being reached. Fortunately, for those looking for increased reliability from their supercar slayer, the clever bods down at fuel injection specialist, ASNU, have launched a twelve-injector conversion kit for the R35 GT-R that can be configured to allow a total of over 2600cc of fuel at 3bar pressure. Developed in partnership with tuning software outfit, EcuTek, ASNU's offering is supplied with a loom and a bespoke driver to ensure seamless management of the additional injectors. The kit works in conjunction with the ASNU R35 GT-R fuel rail and accompanying sensors in order to deliver as much of a 'plug and play' experience as possible for end users. The design has been tested for clearance on both stock and aftermarket bonnets (including those made of carbon-fibre), and further product information can be found at the ASNU website.

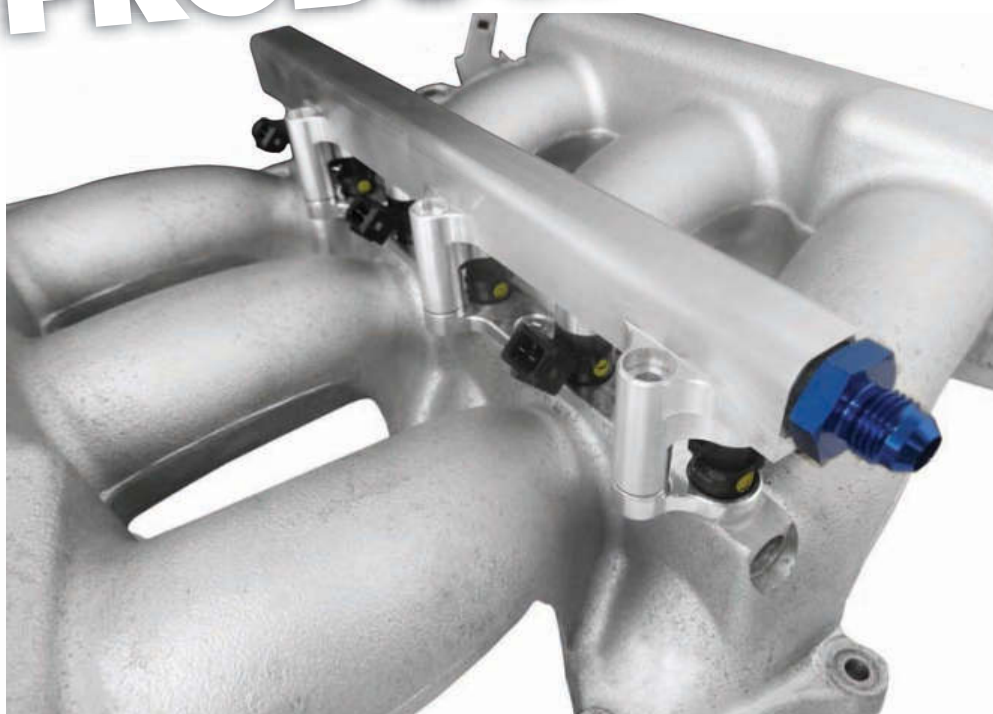
Price: £2802.14

Contact:

www.asnuinjectors.co.uk or call 020 8420 4494



RED HOT PRODUCT





MFACTORY HELICAL LIMITED-SLIP DIFFERENTIAL FOR HONDA CIVIC EP3 TYPE R

A limited slip diff is an essential piece of equipment for any fast road or track tuned car as it allows the axle of the driven wheels to be essentially 'locked' to equalise the torque to each wheel. This means that power isn't lost through spinning up the unloaded inside wheel when cornering, which is a common problem with 'open' type differentials. Through a smooth and constant power distribution, a helical limited-slip differential, such as this one from US transmission specialists, MFactory, is designed to maximise a vehicle's traction irrespective of road or driving conditions. MFactory's LSD effortlessly transfers power to the ground while claiming to be lighter, stronger and more efficient than any equivalent unit currently available on the aftermarket. Honda Civic EP3 Type R owners also have the option of choosing between MFactory stages, thus further influencing the bias ratio of their car's diff. Better yet, this particular limited-slipper is shipped with a globally transferrable lifetime warranty, and the part itself promises a perfect fitment and finish to ensure hassle-free installation and maintenance. Order yours direct from the Tegiwa Imports website today.

Price: £528.26 for standard LSD, £603.73 for Stage 1 Racepack LSD, bearing sold separately at £30

Contact: www.tegiwaimports.com or call 01782 334440

SUSPENSION COMPONENTS ADJUSTABLE CAMBER AND CASTER MOUNTS

Antipodean automotive parts manufacturer, Suspension Components, has long been designing and producing trick chassis upgrades for high-powered Japanese motors. In an exciting move, we can reveal that Gateshead-based tuning parts distributor, AS Performance, is now able to offer some 'thunder from down under' to its customers by stocking the Aussie firm's adjustable camber and caster strut mounts. These mounts permit up to 20mm negative and 10mm positive camber with a generous 10mm negative caster. A high tensile spherical bearing and common shock mounting collets are incorporated into each part, while ease of adjustment and servicing is achieved through the manipulation of simple clamping nuts and a sliding centre plate. And with over fifty years' experience in the chassis modification game, you can rest assured knowing that the quality of Suspension Components parts is pure bonza!

Price: From £200 per pair

Contact: www.asperformance.com or call 0191 410 3770



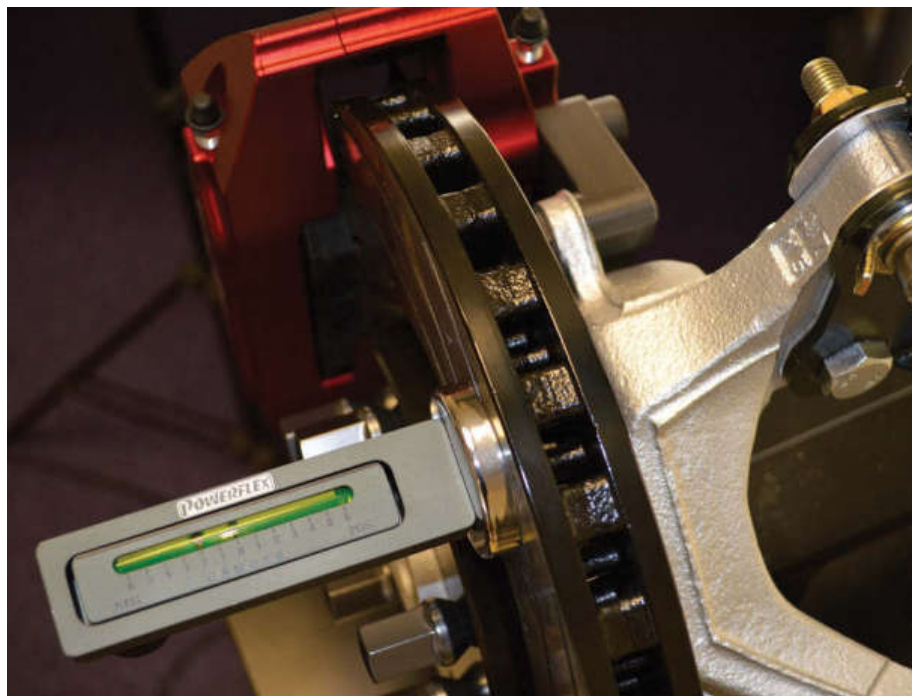
POWERALIGN MAGNETIC CAMBER GAUGE

Adding to its huge catalogue of instantly recognisable purple polyurethane bushes,

Powerflex is pleased to be offering the PowerAlign magnetic camber gauge to its customers. Measuring camber angle by attaching itself to a wheel hub or brake disc, this nifty bit of kit allows for on-car adjustment to ensure correct wheel alignment by graduating between values of minus and plus six degrees. Supplied in a durable storage case, this gauge could prove to be a massively valuable tool for those dismantling and reassembling their car's suspension components, and it should make for an ideal track day companion to those piloting competition cars.

Price: £35.94

Contact: www.powerflex.co.uk or call 01895 460033





AIRREX AIR RIDE KIT FOR LEXUS GS

Spot a motor dropping itself down to 'VIP' height, and you're bound to witness a sea of smiles from those watching this increasingly popular mod in action. Few platforms lend themselves to this scene-stealing feature as well as the Lexus GS, and so it comes as no surprise to us to learn that AirREX has developed a series of digitally-controlled air ride kits for GS, GS340, GS350 and AWD GS models dated from 1991 onwards. AirREX has a proven track record in the field due to its position as the preferred supplier for Liberty Walk projects, but don't let that lead you to think that your UKDM GS isn't catered for: these fully assembled, leak-tested kits are tough, reliable, durable and well suited to British roads, offering a finely tuned ride height at each corner of your car, preset programming and adjustable damping forces. The kit doesn't come cheap, but a simple installation and setup process is claimed to save bags of time when compared to the similar systems from rival manufacturers, and the power feed required to run the AirREX equipment is half of what is usually required for a kit that is this comprehensive. So, how low can you go?!

Price: £3999

Contact: www.airrex.co.uk or call 01933 685840

GOODRIDGE 'PHANTOM' BRAIDED BRAKE LINES FOR TOYOTA GT86/SUBARU BRZ

Most competitive GT86/BRZ track cars are kitted-out with decent anchors and braided brake lines, yet some owners of highly tuned, fast-road Toyobarus don't seem to appreciate the need for effective stopping power when increasing the top end performance of their cars. Thankfully, Goodridge has expanded its 'Phantom' stainless steel brake line kit portfolio in order to cater for the model(s). Offering peace of mind through improved braking efficiency, resistance to corrosion and an end to spongy pedal feel, each kit is available in a choice of ten different colours to help owners colour-code the parts to their vehicles. Model-specific components are used in the construction of each brake line, and TUV, DOT, ADR and ISO approval is, of course, a given.

Price: £79.80

Contact: Find your local Goodridge distributor at www.goodridge.com



RACEGLAZE ALCANTARA CLEANER

It's all very well having paintwork that has been polished to perfection, but what about the interior of your car? That gets mucky too, you know! In fact, few materials seem to attract dirt quite like Alcantara.

Detailing firm, Raceglaze, has launched a dedicated cleaner for the suede-like stuff, ensuring the removal of accumulated dirt, grease and general soiling without causing damage to upholstery. The super solution is water based, and includes an active ingredient that wipes out up to 99.9% of all microbial bacteria – a particularly welcome feature for those about to buy a used Alcantara-trimmed car! There are no surfactants or harsh chemicals used in the production of Raceglaze's product, and quantities of 250ml or 500ml are available to buy direct from the company's website.

Price: £12 for 250ml, £20 for 500ml

Contact:

www.raceglaze.co.uk or call 01780 749449

ARP MAIN STUD KIT FOR TOYOTA 1NZFE ENGINES

ARP is regarded as being the world leader in fastener technology, and it is that accolade that sees its studs, nuts and bolts holding together some of the most impressive modified engines that we've come across. Now, owners of 1NZFE-equipped Toyotas (Yaris, Corolla, Auris etc.) can get in on the action thanks to the release of a Pro Series ARP2000 main stud kit for the poky 1.5-litre powerplant. Comprising chromoly steel twelve-point nuts, parallel ground washers and a set of ten studs that are nominally rated to 220k psi, this kit is designed to exceed the tolerances of OEM equipment when it comes to strength and durability – an ideal fastener solution for tweaked engines. ARP products are widely available from appointed distributors across the UK, many of which are listed on the manufacturer's website.

Price: £148.42

Contact: www.arp-bolts.com



TFS MOTORSPORT 'ALUMINATI' ANODISED ADJUSTABLE DROP LINKS

KENT-BASED TUNING COMPANY, TFS MOTORSPORT, HAS SEEN A SHARP RISE IN DEMAND FOR ITS 'ALUMINATI' ADJUSTABLE DROP LINKS OF LATE, AND IT'S NOT DIFFICULT TO SEE WHY; PROVIDING 40MM TOTAL ADJUSTMENT RANGE (20MM IN EACH DIRECTION), THESE ATTRACTIVE ANODISED PARTS FEATURE A LARGE BALL JOINT WITH A BRONZE HOUSING FOR PRECISE STEERING TRANSITION, HARDENED CAP HEAD BOLTS, NYLOCK NUTS, MISALIGNMENT SPACERS AND UPGRATED CONNECTION RODS THAT ARE STRONGER AND STIFFER THAN THE STOCK ITEMS THAT THEY REPLACE. EACH PAIR OF DROP LINKS IS CUSTOM MADE FOR THE HOST VEHICLE IN ORDER TO ENSURE A PLUG AND PLAY FITMENT, AND THEY CAN BE INSTALLED WITH MINIMAL FUSS TO STOCK OR MODIFIED SUSPENSION SYSTEMS. ADDITIONALLY, THEY CAN BE ADJUSTED ON THE CAR WITHOUT THE NEED FOR REMOVAL – PERFECT FOR TRACKDAY OUTINGS. AT ONLY SEVENTY QUID A PAIR DELIVERED TO YOUR DOOR, THEY REPRESENT EXCELLENT VALUE FOR MONEY, TOO. WELL, WHAT ARE YOU WAITING FOR?!

PRICE: £70 PER PAIR. PRICE INCLUDES DELIVERY

CONTACT: BUY DIRECT FROM THE TFS MOTORSPORT EBAY STORE: [HTTP://15.GD/GOERYP](http://15.GD/GOERYP)



V-MAXX COIL SPRINGS FOR TOYOTA MR2 ROADSTER

Loud and lairy sports springs manufacturer, V-Maxx, has oodles of experience when it comes to supplying tricked-out Toyotas with tuning parts, and the company has continued its tradition of beefing-up the profile of modified Japanese motors by introducing a set of coil springs for 1.8-litre MR2 Roadsters (MY2000+). Wound from the same steel that V-Maxx uses for its competition springs, the road-going MR2 parts are pre-stressed to prevent sagging before being shot-peened and powdercoated.

They're a direct replacement for OEM springs, and lower the roadster's ride height by approximately 35mm. They also deliver a softer ride for cruising coupled with a firmness that is experienced when the car is thrown into corners at speed. As you'd expect, V-Maxx springs come with full TUV approval, and they're competitively priced.

Price: £120

Contact: www.v-maxx.co.uk
or call 0845 060 3020



ZADA TECH FULL-COLOUR HDMI DIGITAL MULTI-GAUGE DISPLAY

Advances in automotive technology means that the clunky dashboard dials of yore are being phased out by snazzy digital displays, and companies like Southampton's Zada Tech are at the forefront of this electronic revolution.

The firm's latest assault on yesterday's gear comes in the shape of its full-colour HDMI multi-gauge controller box.

Plugging into your car's LCD-equipped double DIN head unit, the box is fully programmed with gauges that will display up to sixteen separate readings of your choice (six on display at any one time). An included joystick enables fast scrolling between screens, and the controller can even be used to activate functions such as a radiator fan or water meth injection when specific values are registered on each digi-dial.

Furthermore, if your car has an OBDII port with CANbus, Zada Tech can provide a compatible reader to make use of existing sensors without the need for additional wiring. Watch the demo video on YouTube to see this modern magic in action:

https://www.youtube.com/watch?v=p0_ErPzzylc

Price: £290

Contact: www.zada-tech.com



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ed like to tempt you with a set of seriously sexy new stainless steel brake lines from HEL. Designed to add some real 'Rock and Roll' to your driving, HEL's braided Teflon hose lines are seductively wrapped in a tight, shiny PVC outer sheath to offer the ultimate protection... allowing you to get on with the business of raising some Hell. Used in competition by the fastest racers on earth, HEL lines offer incredible stopping power over O.E. systems, and real feel on the very limit - meaning quicker times, lap after lap. In pure performance per £ terms these hoses represent the single best aftermarket upgrade you can make to your car. And real 'Bolt-on' fitting means you're soon up and running...



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ANGEL

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With HEL brake lines you really can take your driving to seventh heaven.



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PROJECT HEL

A STING IN THE TAIL

HEL PERFORMANCE'S FK2 TYPE R GETS A VENOMOUS NEW SET OF PIPES TO UNLEASH ITS DEMONIC GROWL COURTESY OF DERBYSHIRE EXHAUST SPECIALISTS SCORPION EXHAUSTS

As with most project cars, one of the first modifications that Ben Viner of Hel Performance wanted to make to the company's new FK2 Civic Type R was to unleash the VTEC turbo motor from the stranglehold of an overly-restrictive standard exhaust system. When designing an exhaust for a new model, manufacturers have to play by very different rules than we do

in the aftermarket. For example, while Honda could've likely extracted more power from the new K20C1 motor with a bigger bore, freer flowing worst, with strict emissions figures to meet, not to mention trying not to offend the delicate eardrums of the general public, it has to make compromises. Luckily, that's what we in the tuning industry are for, and when it comes to factory compromises,

there's always opportunity for improvement.

And with that in mind, Ben looked to the current crop of Honda BTCC cars – Matt Neal and Gordon Shedden of the Yuasa Racing team use FK2 Type Rs as their weapons of choice – for inspiration of what can be achieved when allowed to push the envelope.

However, rather than trying in vain to mate up one of the

bonkers BTCC backboxes to the stock Civic's catalytic converter, Ben drove up to Derbyshire to the company that make the Honda race team's exhausts to see what they could knock up for the road version.

Scorpion exhausts have been building both OE and aftermarket stainless steel exhausts for all sorts of makes and models of performance car for more than 20 years now,



THE FACTORY SYSTEM IS MADE FROM SMALLER DIAMETER PIPEWORK THAN THE NEW SCORPION SYSTEM, MEANING AN IMPROVEMENT IN GAS FLOW OVER THE ORIGINAL. ALSO, WITH ONLY TWO SILENCERS INSTEAD OF FOUR, IT SOUNDS BETTER AND WEIGHS IN AT 6KG LESS



they've also provided systems for a whole host of race teams on both two and four wheels, so have plenty of experience to draw from when it comes to creating exhausts that not only sound great, but have a positive effect on performance.

So when Ben rolled up to Scorpion HQ in the new Civic, the firm's engineers couldn't wait to get their mitts on the car to see how they could improve on its factory fitted system.

Getting to work straight away, Scorpion's technicians removed the restrictive OE system and took a range of measurements to see where the deficiencies lay.

The original cat-back system

features 57mm diameter pipework that forks into two 45mm pipes before terminating in a pair of backboxes with 83mm tailpipes. It also packs a total of four silencing boxes along its length and weighs in at a hefty 25kg.

Looking at the OE parameters, it was felt that things could be easily improved upon, both in terms of flow and overall weight.

So after the sums and initial sketches were drawn up, the final development product for Scorpion's own stainless steel cat back system weighs in at only 19kg and contains just two silencing boxes.

Along with this substantial

6kg weight reduction, before and after dyno runs on an independent dyno resulted in a 6bhp power gain, too. And that's without any remapping, which would likely increase these gains further.

The pipework for the exhaust is also larger, being made from 63.5mm bore, fully mandrel-bent T304 stainless steel. This particular size gave the optimum gas flow rate and T304 is the ultimate material of choice (think aircraft grade material here).

The twin backboxes are then finished off with four 100mm Daytona tailpipes, which are available in either mirror polished or stealthy black

ceramic finishes.

Scorpion has also developed a 200-cell sports cat and a de-cat section to complement the cat-back system, which will go into testing in the following months.

But for now, the Type R is happily cruising around with more power, a meatier exhaust note and a bit more junk in its trunk! And this is just the beginning!

CONTACTS

Hel Performance
www.helperformance.com
 01392 811601

Scorpion Exhausts
www.scorpion-exhausts.com
 01773 744123



AFTER REMOVING THE FACTORY FITTED SYSTEM, SCORPION'S SKILLED TECHNICIANS MEASURED EVERY ASPECT OF THE EXHAUST TO SEE WHERE THE RESTRICTIONS LAY AND THE GAINS COULD BE MADE. IN THE END A GAIN OF 6BHP WAS SEEN ON AN INDEPENDENT DYNO

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PROJECT TYPE R

BACK IN THE RED

AFTER BEING AT THE MERCY OF SCUFF 'N' SCRATCH SOLUTIONS' SANDING PADS AND SPRAY GUNS, DAN'S CIVIC HAS SWAPPED ITS PINK PATCHWORK PAINTJOB FOR GLEAMING MILANO RED AND IS LOOKING BETTER THAN EVER!

It always amazes me when I see cars in the middle stages of a respray. Much like having a sneaky peek in a hospital operating room when the surgeon is halfway through the task of increasing the size of your bird's undersized bristles with a pair of silicone implants, the sight of your pride and joy stripped of its panels and masked up ready for the gun is a stomach churning sight. Even if you have every

confidence in the bodyshop that they'll return your car looking even better than new, much like the doctor's reassurance that your lady's lumps won't resemble a couple of bulging Tesco carrier bags after he's worked his magic, it still takes a good slug of faith to weather that particular storm and keep your head while your baby is being butchered.

Luckily, when I went to visit Rob at Scuff 'n' Scratch Solutions

in Milton Keynes to see how the fitment of the Knight Racer front splitter and full respray was going, I could still remember the state of the Civic's patchy pink paintwork, and was comforted that almost anything would be an improvement over that.

Rob and the guys had been busy over the last week and had already removed the bumpers, lights, rear spoiler and mirrors, and had even masked up the

glass and had got busy with the sanders, keying up the top coat, removing any rust spots and preparing the surface for its fresh new pigment.

The factory 17in split seven-spoke wheels, which were badly kerbed and had generally seen better days, had also been taken off and were having their kerb damage removed before their new gloss black overcoat could be applied.



THE FACTORY WHEELS WERE BADLY KERBED, BUT AFTER SCUFF 'N' SCRATCH SOLUTIONS DID THEIR THING, THEY'RE NOW LOOKING AS GOOD AS NEW



THE NEW KNIGHT RACER MUGEN-STYLE LIP HAS BEEN BONDED ON AND SMOOTHED TO PERFECTION CREATING AN OE QUALITY FITMENT THAT LOOKS ACE

Yes, seeing the Civic like this was traumatic, but I knew the guys wouldn't let me down, so I left them to it and vowed to return a week later when the job was complete.

Seven days can be a long time when you're waiting for something exciting, and just like the day that your reinflated missus gives you the green light to check out the doc's work for yourself, the day that Rob called to say the Civic was ready for collection felt like all my Christmases had come at once. I shot over to MK both nervous and excited at the same time, needless to say, however, as a bodyshop that specialises in all kinds of work from stock colour resprays to full custom work and restorations, I shouldn't have been worried because, when I saw the finished product, all my fears subsided and I found a new level of love for the now ravishing-in-red Type R.

The faded, dented and scratched panels now wear a flawless deep coat of glossy Milano red that the refurbished wheels really complement in their much more menacing hue. It's pretty amazing how good the wheels look, actually. Looking at them now, you'd never guess that each one had been kerbed to within an inch of their lives. Impressive stuff! And Scuff 'n' Scratch Solutions can even offer this as a same-day service from just £40-£55 per wheel. They can either match your existing paint or give your rims a custom colour if you want before each wheel is baked in their state of the art ovens to ensure a fast turnaround and that the rims are tough enough to live up to the six-month warranty that the firm offers on these refurbs.

As a bonus, the guys also treated the Civic's standard brake calipers to a lick of body colour red, which has really made them

stand out behind the black spokes of the rims.

The finishing touch, however, has to be the Knight Racer Mugen-style lip. Blended in to the factory front bumper it looks as good as an OE item, just with oodles of added aggression heaped on top. It's a top mod that has really transformed the Civic's front end for the better, and now, along with its awesome paint job, the EP3 can hold its spoiler high, both on the road, and at the showground. – Dan

THANKS & CONTACTS

Adrian Flux
www.adrianflux.co.uk
0800 369 8590

Knight Racer
www.knightracer.com
01908 379118

Scuff 'N' Scratch Solutions
www.scuffnscratchsolutions.co.uk
01908 377217

INSURANCE

While wheel refurbishments may not seem like a worthy cause to call your insurance broker about, it could be a shrewd move to give them a bell, just so their records are up to date, especially if you've had a colour change as we did with the Civic. Most non-performance enhancing exterior modifications, including painting, dipping or wrapping your wheels, don't carry any loadings to your premium, so you're unlikely to get hit with any kind of price rise, however, it's worth notifying your broker so they can update the specs they keep on your car to reflect your rims' latest shade in the event you ever need to make a claim on the policy.



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WORDS & PICS: PAUL COWLAND

PROJECT WHITE STUFF BRAKES ON!

TIME FOR COWLAND TO FIT THE BRAKES HE ORDERED LAST MONTH – AND CELEBRATE THE STi'S 3RD BIRTHDAY – WITH AN MOT PARTY! WOOHOO!

Blimey! That went fast, didn't it? It only seems like a few weeks ago when I first saw this white STi – then in 'Pro-R' livery – roll out onto track for the first time. Turns out, in fact, it was THREE years ago...and as VOSA kindly reminded me, it was now time for the car's first MOT test. Despite having a plethora of great MOT stations on my doorstep, I decided to make a longer journey to Greetham, on the A1, to get the STi's inaugural poking and prodding carried out. The aptly named Greetham Garage there is owned by veteran rally pedaller and prep maestro Julian Cardew, who is trusted by the likes of Isuzu UK to run their rally trucks, and by International Motors to run their heritage

cars. I knew Julian and his team would look after the car well, but also, I could get my smart new Alcon brakes fitted at the same time.

As you might expect for a well-maintained Subaru, the MOT test was a mere formality, with Julian kindly taking the time to adjust my headlight height for me at the same time. It was then a task of steaming into the brake fit. The calipers needed a little gentle persuasion to come off, having seen hundreds of crazy heat cycles. Every single bolt and nipple was seized and Julian, along with partner-in-crime Jack, were exceptionally careful not to strip anything as they took the worn parts off.

As Jack removed the old

discs, it was clear to see we were in the nick of time. The Alcon wear indicators were all gone, and the now crispy pads were down to their last legs!

The new friction materials would make a massive improvement, undoubtedly. Ever-attentive to detail, both Jack and Julian were quick to point out that the caliper pistons were also lightly corroded on their outer surfaces. As the pads had worn away and this metal had been exposed, it had inevitably suffered. Rather than force these rough pistons back past the caliper seals, possibly causing damage, the lads kindly spent some time with fine emery paper and penetrating oil in order to get the surfaces looking good again, and future-

proofing the life of the seals. Much appreciated, cheers guys! Ever the perfectionist, Julian also checked the run-out, or 'wobble' of the new set-up using his super-accurate gauge.

We knew the new discs would be perfect, of course, but this would detect any deflection or damage in the hub or bearing. Once again, this was done to rally standards before the fluid was topped up and pedal checked.

With everything torqued to perfection, I was free to go off and gently bed my new pads in.

I went for Alcon's new 'fast road' spec, and it was clear from a few presses in, that they were biting hard! Time and money well spent, I think! A huge thanks to Greetham and Alcon for getting the STi safe – and track ready – again!

THANKS & CONTACTS

www.subaru.co.uk
www.alcon.co.uk



THE NEW ALCON DISCS AND PADS CERTAINLY LOOK THE PART AND, AFTER BEDDING THEM IN, THE PERFORMANCE CERTAINLY LIVES UP TO THE LOOKS



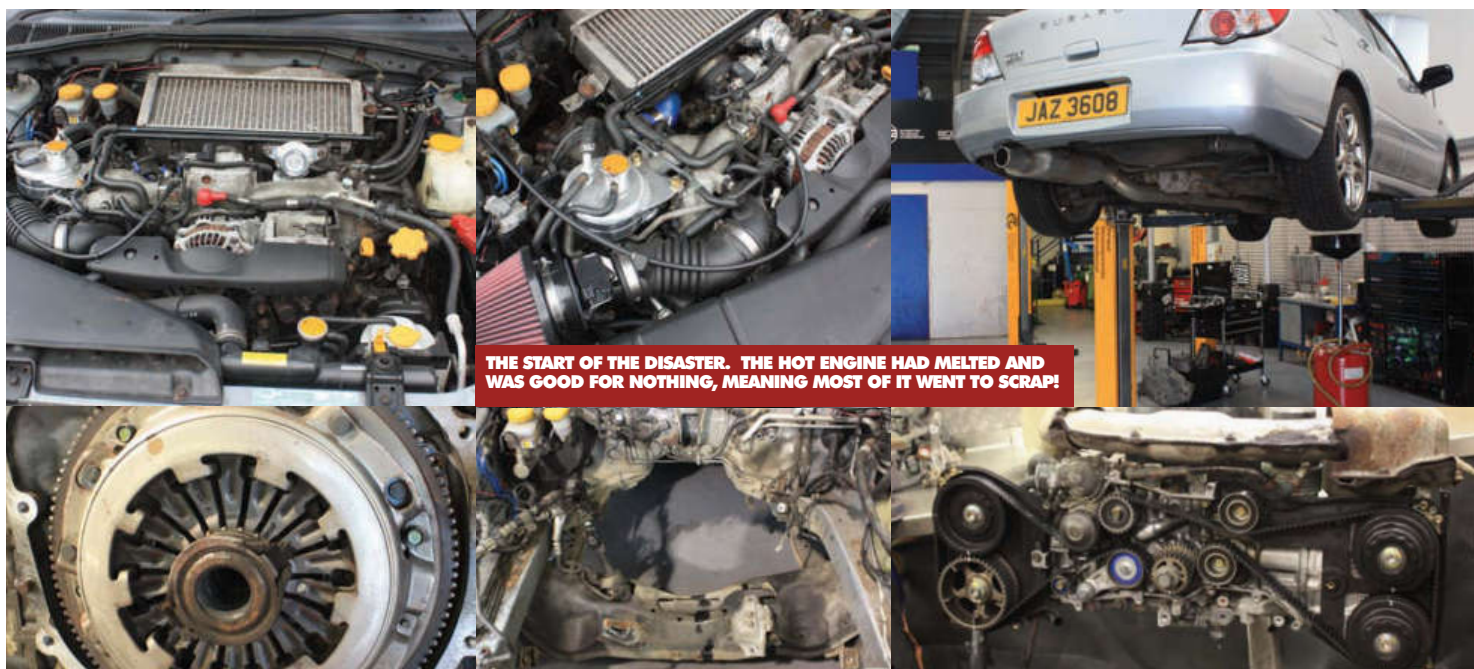
PROJECT WRX BUILDING UP

NEARLY DONE NOW, JUST A FEW BITS TO BOLT ON AND THE ENGINE WILL BE UP AND RUNNING!

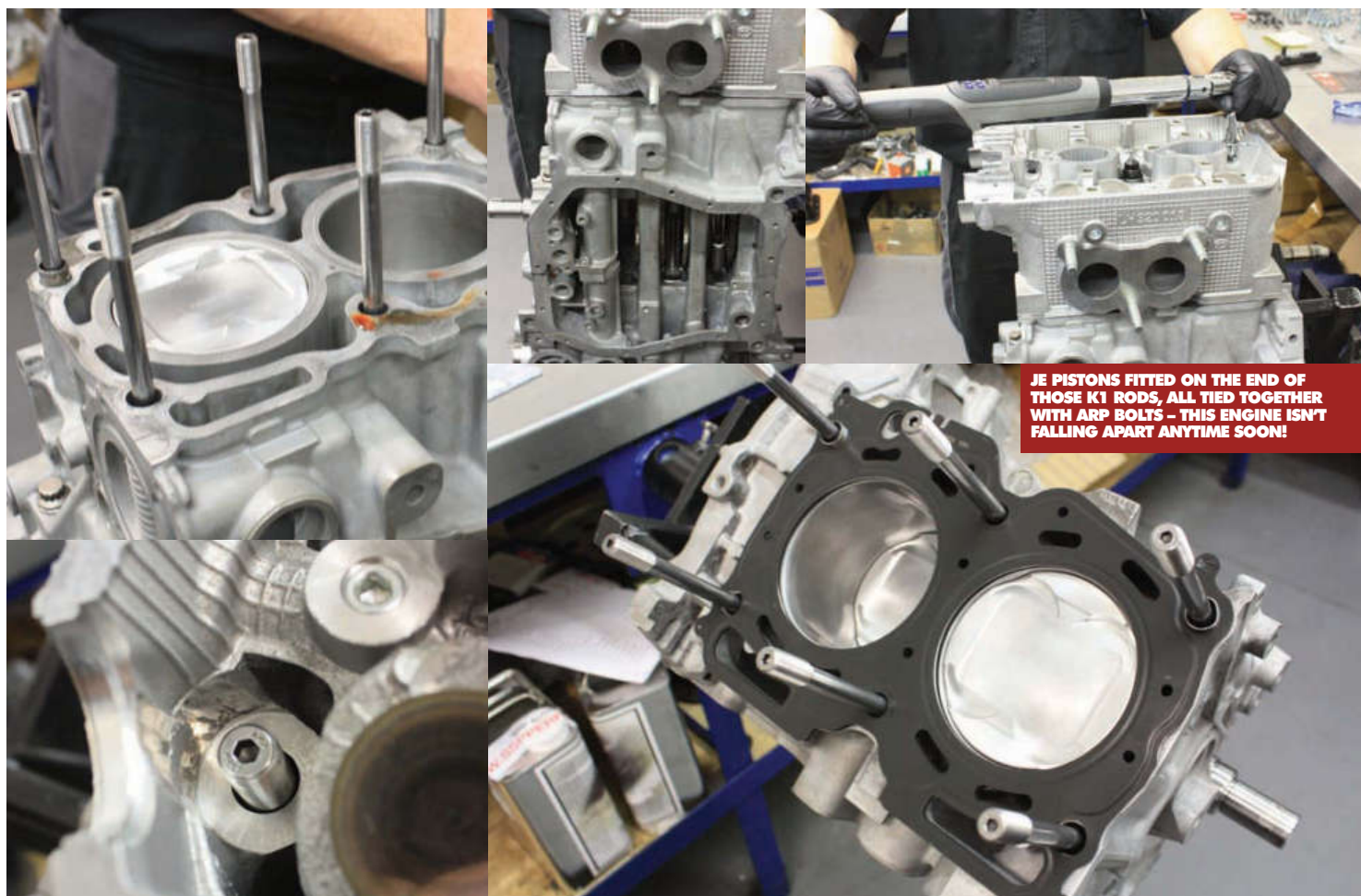
After last month's issue went to press, the Subaru was full steam ahead and Torque Developments really pushed to get the engine built. Did they succeed? Oh, yes they did! Here's a recap of what happened: Remember just over a year ago our project

wagon got a little hot on the rollers and the bottom end started knocking? This resulted in a full engine stripdown and we discovered there was not much to salvage from the melted motor, apart from the block, which nearly didn't make it, either.

All we could say at the time was, never buy a Subaru with a knocking engine, they're just not worth it! Then Torque Developments started on the rebuild. With their expertise in the Jap market and their fastidiousness to do the job right and cut no



THE START OF THE DISASTER. THE HOT ENGINE HAD MELTED AND WAS GOOD FOR NOTHING, MEANING MOST OF IT WENT TO SCRAP!



JE PISTONS FITTED ON THE END OF THOSE K1 RODS, ALL TIED TOGETHER WITH ARP BOLTS - THIS ENGINE ISN'T FALLING APART ANYTIME SOON!

corners, we think we've ended up with one of the best rebuilt engines on the market, which will, at last, be back in the WRX's bay. With the JE pistons and K1 rods being held in place with ARP studs, and those brand new Subaru heads, this engine should last for

years to come. Once the engine is in and running we'll need to run it in and then it'll back to TDi for an oil change and a rolling road test to see what sort of power comes from the fresh rebuild. Fingers crossed it'll all be sweet!

CONTACTS

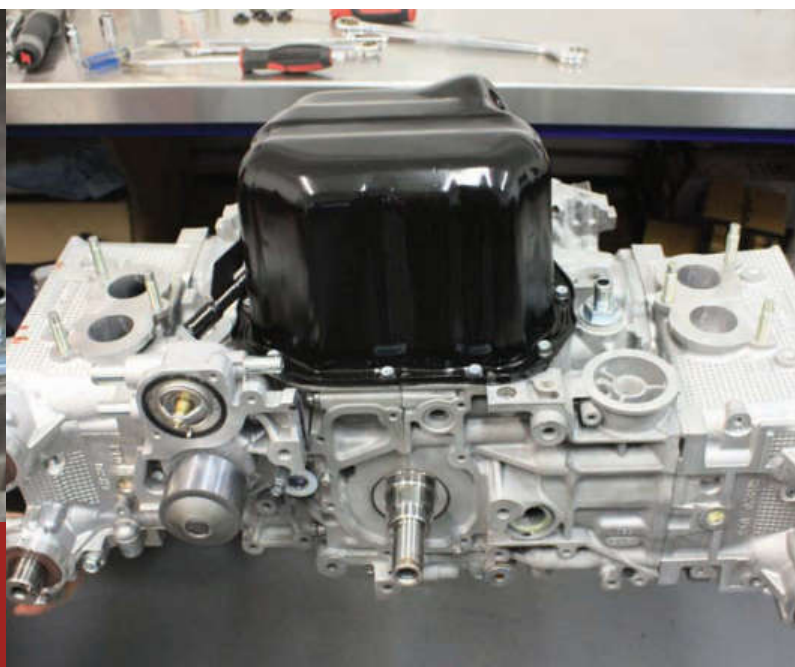
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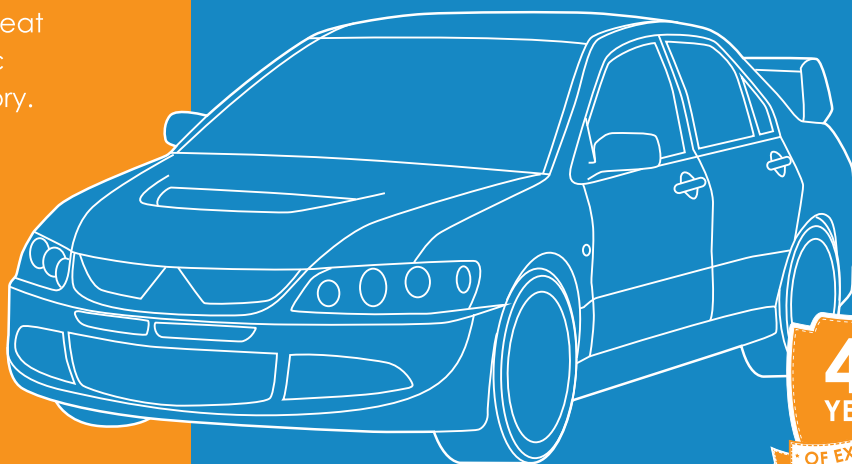
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